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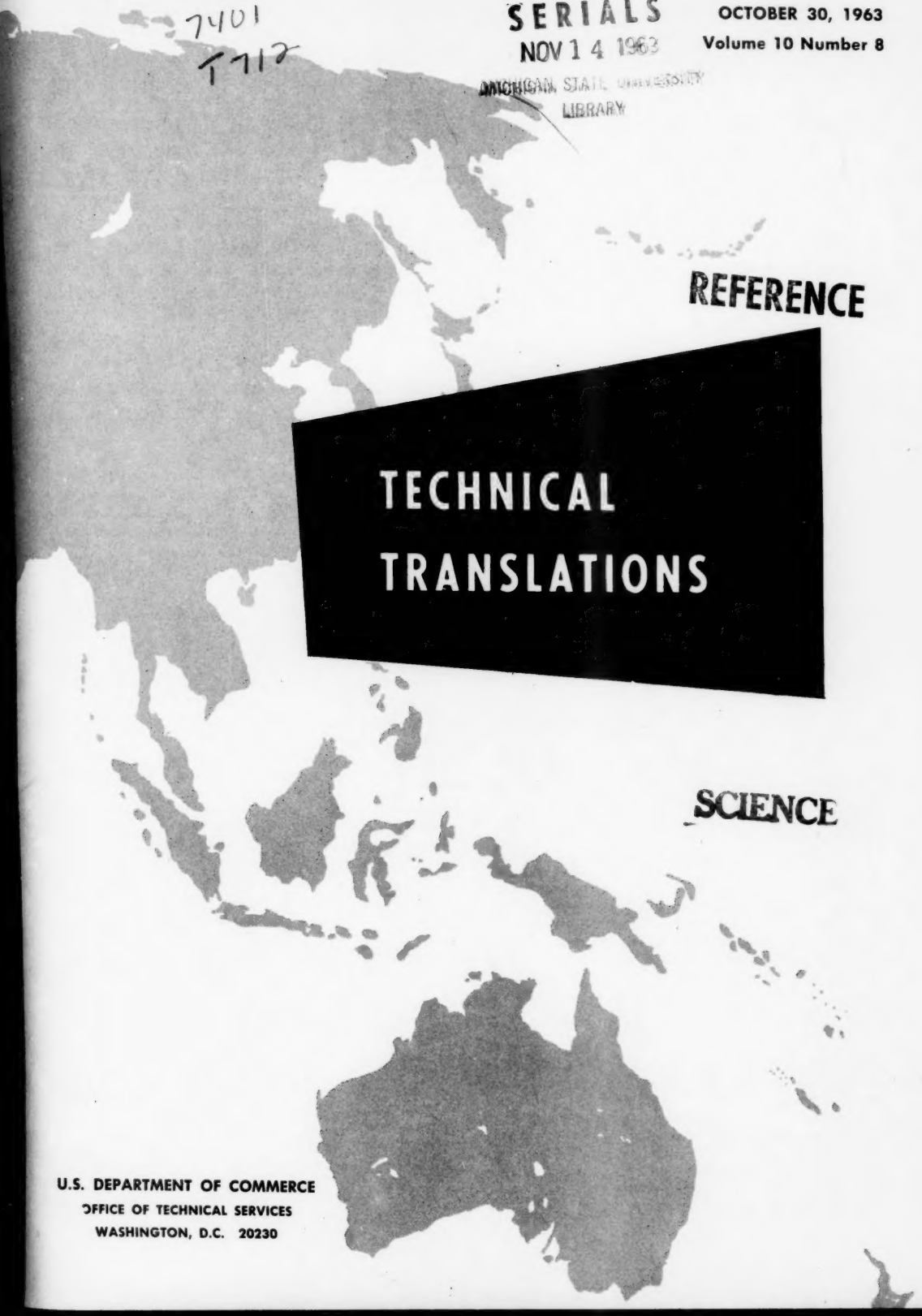

REFERENCE

TECHNICAL TRANSLATIONS

SCIENCE

U.S. DEPARTMENT OF COMMERCE
OFFICE OF TECHNICAL SERVICES
WASHINGTON, D.C. 20230

TECHNICAL TRANSLATIONS

U.S. DEPARTMENT OF COMMERCE
Luther H. Hodges, *Secretary*

OFFICE OF TECHNICAL SERVICES
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Use of funds for printing this publication approved by the Director of the Bureau of the Budget, November 22, 1961

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UNITED STATES DEPARTMENT OF COMMERCE
OFFICE OF TECHNICAL SERVICES
WASHINGTON, D.C. 20230

TECHNICAL TRANSLATIONS

Volume 10, Number 8 Pages 867 - 991 October 30, 1963

*Descriptors marked with an asterisk are listed in the subject index.

BIBLIOGRAPHY

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNAL NO. 250 (GENERAL SERIES). 29 July 63, 7p. JPRS: 20360.
Order from OTS $0.50 63-31385

Abstract trans. of Academia Republicii Populare Romaine. Comunicarile, 1963, v. 13, no. 5, p. 401-411, 413-425, 427-431, 433-437, 439-443, 445-453, 455-461, 463-479.

DESCRIPTORS: *Abstracts, Bibliographies, *Mathematics, Electronics, *Paleontology, *Plants (Botany), Geology, *Physiology.

Library of Congress, Washington, D. C.
MONTHLY INDEX OF RUSSIAN ACCESSIONS.
Sep 63, 325p.
Order from GPO $12.00/year

This index is a record of the publications in languages spoken in the Soviet Union currently received by the Library of Congress and a group of cooperating libraries. It consists of three parts: Part A lists monographic literature published after 1944, with the title in the original language preceded by its English translation; Part B lists periodicals published after 1946; Part C constitutes a subject guide to both the monographs and periodical articles listed in Parts A and B.

AGRICULTURE

SUCTION INSECT TRAP. [1963] [7]p. AERDL T-1685.
Order from OTS or SLA $1.10 63-19567

Trans. of German patent 638,963, cl. 45k, gr. 1_{04}, N 36634 111/45k, granted 5 Nov 36, issued 26 Nov 36, pat. from 26 Apr 34 (Priority: France, 27 Dec 33) by Nomosquito.

DESCRIPTORS: *Insect control, *Pest control, Light, Electric discharges.

The invention involves a suction insect trap with a perforated collecting receptacle for the insects which can be closed through a hinged lid and is removably located in the housing shaft of the device between the electric discharge lamp arranged in front of the suction opening and serving as attracting light and the suction fan, characterized by the fact that the lid of the collecting receptacle is mechanically connected through a rod arrangement with one of the switching devices, e.g. the starter resistance or the starting switch, of the electric motor driving the fan. (Author)

Boutellier, Paul.
IMPROVEMENTS TO INSECT TRAPS USING LIGHT SOURCES, PARTICULARLY THOSE USING A LIGHT SOURCE EMITTING ULTRA-VIOLET RAYS. [1963] [9]p. AERDL T-1684.
Order from OTS or SLA $1.10 63-19566

Trans. of French patent 760,355, gr. 1, cl. 4, appl. 3 Aug 33, granted 14 Dec 33, pub. 21 Feb 34 (appl. in Luxembourg, 30 Nov 32).

DESCRIPTORS: *Insect control, *Pest control, *Ultraviolet radiation, Light, Electric discharges

The purpose of this invention is to bring improvements to insect traps, especially those using a light source emitting ultra-violet rays. These improvements consist chiefly of placing between the light source and at least some regions of the surrounding space a minimum of one transparent or translucent screen, in order to obtain at least one light wave having a determined wavelength. This invention is especially concerned with certain applications and certain designs of these improvements which include a second arrangement - concerning especially the devices of this type which feature an ultra-violet rays emitting source - which consists in installing, between the light source and the air intake, a partition which may be used as a reflector and which prevents the stream of air from coming into contact with the light source and influencing its operation; a third arrangement which consists in placing above the light source a part made of a material which may or may not be transparent and which is covered, over at least part of its surface, with transparent or translucent substances; and a fourth arrangement which consists of including in these devices a system capable of electrocuting insects coming in the vicinity of the apparatus. It is still more especially concerned (as new industrial products) with devices of the type described which include some application of these improvements, with the elements and tools used in their construction, and with the installations including such devices. (Author)

Braido, Attilio and Bianchi, Marcel.
APPARATUS FOR THE DESTRUCTION OF INSECTS. [1963] [5]p. AERDL T-1686.
Order from OTS or SLA $1.10 63-19568

Trans. of French patent 618,847, gr. 1, cl. 4, appl. 13 July 26, granted 21 Dec 26, pub. 22 Mar 27 (appl. in Switzerland 15 July 25).

DESCRIPTORS: *Insect control, *Pest control, Light, Electric discharges.

The invention concerns an apparatus for the destruction of insects consisting of a light source to attract them and a fan or any other similar device creating an air stream which carries them toward a receptacle where they are drowned. A conveniently placed mesh lets the air through while retaining the insects. (Author)

Melnikov, S. V.
FEATURES OF THE WORKING PROCESS OF GRINDING FEED IN HAMMER MILLS (Osobennosti Rabochego Protsessa Izmelcheniya Korma v Molotkovoi Drobilke). Apr 63, 14p. 2 refs. RTS 2246.
Available on loan from OTS or SLA 63-23001

Trans. of Mekhan[izatsiya] i Elektrif[ikatsiya] Sots[ialisticheskogo] Sel'[skogo] Khoz[yaistva] (USSR) 1953, no. 3, p. 40-48.

DESCRIPTORS: Animal industry, *Cereals, *Grinders, *Milling machines, Machines, Agricultural machinery.

Omel'chenko, A. A. and Yushchenko, L. A.
LA MAQUINA DE HACER ESTERAS MS-5 (Matovyazal'naya Mashina MSh-5) (The MS-5 Mat Manufacturing Machine). 12p. CID:62-288.
Order from OTS, ETC or CID $0.80 62-29288

Trans. in Spanish of Traktory i Sel'khozmashin (USSR) 1956, no. 9, p. 12-14. [sic]

DESCRIPTORS: Fibers (Natural), *Textile industry, Agricultural machinery.

Shcherbakov, A. A. and Yur'ev, Yu. K.
OBTENCION DE FURFUROL A PARTIR DE RESIDUOS AGRICOLAS Y MATERIAS VEGETALES (Poluchenie Furfurola iz Sel'skokhozyaistvennykh Otkhodov i Rastitel'nykh Materialov) (Obtention of Furfural from Agricultural Wastes and Plants). 22p. 21 refs. CID: 62-262.
Order from OTS, ETC or CID $0.86 62-29262

Trans. in Spanish of #Zhurnal Prikladnoi Khimii (USSR) 1956, v. 29, no. 1, p. 110-118.

DESCRIPTORS: Agriculture, Plants, (Botany), Production, *Furfural.

Animal Husbandry

Nogina, V. T.
OBTAINING TYPE-SPECIFIC FOOT-AND-MOUTH DISEASE SERA FROM MATURE RABBITS (Poluchenie Tipospetsificheskikh Yashchurnykh Syvorotok ot Vzroslykh Krolikov). 7 Feb 63 [10]p. Trans. V-1818.
Order from OTS or SLA $1.10 63-15939

Trans. of Veterinariya (USSR) 1962, v. 39, no. 8, p. 69-72.

DESCRIPTORS: *Foot-and-mouth disease, Viruses, *Blood serum, Rabbits, *Antigens, Titration, *Immunization.

Experiments were performed to obtain type-specific sera from mature rabbits, to compare them in the complement fixation reaction with the standard sera of guinea pigs, and to compare them with local strains. Standard strains of the foot-and-mouth disease virus, types A, O and C, from guinea pigs and local epizootic strains 302 and 311 were adapted to 3-day-old rabbits. The titer of the adapted strains and their antigenic characteristics were determined after 12 passages. Antigens were prepared and examined according to the complement fixation reaction. These rabbit antigens were shown to have a strict specificity with a suppression of hemolysis with homologous sera. The adapted viruses from epizootic strains, nos. 302 and 311, also possessed antigenic qualities and produced a suppression of hemolysis with the standard serum. To produce hyperimmunization of mature rabbits, a 10% virus suspension from the muscular tissue of young rabbits of the 11th passage was used. The three standard types and the two local strains were used. The titers of the sera from mature rabbits 10 days after their immunization were determined. The rabbit antigens produced a positive reaction in the complement fixation reaction with corresponding sera of both the guinea pigs and the rabbits. Rabbit sera produced a negative result when tested with antigens of guinea pigs.

Alipov, V. V.
THE CONSUMPTION IN FEEDING OF PHOSPHORITES BY ANIMALS. [1963] 6p.
Order from OTS or SLA $1.10 63-16096

Trans. of Zhivotnovodstvo (USSR) 1955, no. 11, p. 98-100.

DESCRIPTORS: *Food, *Nutrition, *Animals, Cattle, Sheep, *Phosphorites.

GROWTH STIMULANT FOR VEGETABLES.
25 June 63, 12p. 9120/61 Japan.
Order from INT $34.50

Trans. of Japanese patent 9120/61 by N. V. Philips Gloeilampenfabrieken, Netherlands, filed 30 Sep 58.

DESCRIPTORS: *Vegetables, Growth, *Growth substances.

MANUFACTURING PROCESS FOR CHEMICAL FERTILIZER CONTAINING SILICIC SUBSTANCE. 26 June 63, 14p. 16966/60 Japan.
Order from INT $42.00

Trans. of Japanese patent 16966/60 by Kunsaku Ohkawa and Hana Ohkawa, filed 1 July 57.

DESCRIPTORS: *Fertilizers, *Silicon compounds, Manufacturing methods.

Andreev, S. V., Martens, B. K. and others.
USE OF RADIOISOTOPES AND RADIATION IN THE CONTROL OF INSECT PESTS OF PLANTS AND ANIMALS. 30 July 63, 11p. (figs. omitted) 30 refs. JPRS: 20425.
Order from OTS $0.50 63-31422

Trans. of unidentified Russion mono. (manuscript article) n.p. [1962] p. 1-14.

DESCRIPTORS: *Radioactive isotopes, *Plants (Botany), Pest control, Pesticides, *Herbicides, Detection, Radiobiology, Agriculture.

For abstract see Technical Translations 9:575, 1963.

Arai, Kaneo; Iida, Masanao and others.
CHANGE IN THE ALKALOID CONTENT OF THE TOBACCO PLANT DURING ITS GROWTH AND FLUE-CURING. [1962] 16p. 12 refs.
Order from SLA $1.60 63-16918

Trans. of [Nihon Senbai Kosha Chuo Kenkyusho Kenkyu Hokoku] (Japan) 1961, no. 103, p. 45-49.
Another trans. is available from K-H $20.00 as K-H-11707 [1962] 16p.

DESCRIPTORS: *Tobacco, Growth, Processing, *Alkaloids, Plants (Botany), Aging (Materials), Nicotine.

The kinds of alkaloids contained in the root are independent of the variety, growth and flue-curing of the plant. A rapid conversion of nicotine into nornicotine occurs at some stage of the maturation (and flue-curing) of nornicotine type plants. When the rapid conversion of nicotine into nornicotine occurred during the flue-curing of the red-leaf plant, an unidentified alkaloid was formed, which like nornicotine developed a color with isatin. (Author)

Avundzhyan, E. S. and Karapetyan, S. A.
THE INFLUENCE OF NITROGEN, IN COMBINATION WITH PHOSPHORUS, ON THE CHANGE IN THE COMPOSITION OF THE FREE AMINO-ACIDS AND SUGARS IN TOBACCO PLANTS (Vliyanie Azota, Kombinirovannogo s Fosforom, na Izmenenie Sostava Svobodnykh Amino-Kislot i Sakharov u Rastenii Tabaka). Apr 63, 12p. RTS 2068.
Available on loan from OTS or SLA 63-23003

Trans. of Akad [emiya] Nauk Armyanskoi SSR [Erivan]. Izv[estiya]. Biol[ogicheskie] Nauki, 1961, v. 14, no. 4, p. 7-18.

DESCRIPTORS: *Plants (Botany), * Tobacco, *Sugar acids, *Saccharide phosphates, *Carbohydrates, *Amino acids, Chemical analysis, Fertilizers, *Phosphorus, Ammonium radicals, Nitrates, *Nitrogen compounds.

A distinctive feature of the roots of the tobacco plant is that the ratio of bound to free amino-acids, for all fertilizer combinations, is higher than found in the stalks of the plant. An increase in the nitrogen dose (especially in the case of ammonium) lowers, and an increase in the phosphorus dose (especially with small amounts of nitrogen) causes an increase in, this ratio in all organs of the tobacco plant. The difference noted in the composition of free amino-acids in the roots only occurs with small doses of nitrate and ammonium nitrogen. In the case of phosphorus starvation, a slight increase is observed in the number and quantity of free amino-acids. In all organs of the tobacco plant the quantity of amino-acids is greater where the plant is fed with ammonium nitrogen, and the quantity of sugars greater where the plant is fed with nitrate nitrogen. (Author)

Berbec, J. and Drzas, E.
STUDIES OF QUALITATIVE VALUE OF SOME HOME-GROWN VARIETIES OF POLISH CIGARETTE TOBACCO. [1962] [40]p. 15 refs.
Order from SLA $3.60 63-16936

Trans. of Hodowla Roslin, Aklimatyzacja i Nasiennictwo (Poland) 1960, v. 4, no. 4, p. 449-476.
Another trans. is available from K-H $14.38 as K-H 11092-a [1962] 25p.

DESCRIPTORS: *Tobacco, Cigarettes, Poland, Acceptability.

Bodurov, Dimitur.
THE RELATIONSHIP BETWEEN THE EXTERNAL CHARACTERISTICS OF TOBACCO LEAVES AND THEIR CHEMICAL SMOKING PROPERTIES. [1963] 9p.
Order from SLA $1.10 63-16612

Trans. of Bulgarski Tyutyun, 1961, v. 6, no. 6, p. 39-44.
Another trans. is available from K-H $11.25 as K-H-11499-a [1962] 9p.

DESCRIPTORS: *Tobacco, Plants (Botany), Chemical properties, *Smokes.

Bolsunov, I. and Kuhn, H.
A CONTRIBUTION TO THE STUDY OF THE OBTAINMENT OF TOBACCO WITH HIGH NORNICOTINE CONTENT [Contribution a l'Étude de l'Obtention de la Matière Première de Tabac Riche en Nornicotine]. [1961] 14p. 37 refs.
Order from SLA $1.60 63-16958

Trans. of mono. Internat[ional] Sci[entific] Tob[acco] Cong[ress] (no. 2) Brussels [8-15 June] 58. [Proceedings] p. 377-385.
Another trans. is available from SLA $1.10 as 61-20770 [1961] 9p.

DESCRIPTORS: *Tobacco, *Nicotine, Classification, *Plants (Botany).

For abstract see Technical Translations 7: 48, 1962.

Borgwaldt, Heinrich.
PROCESS FOR IMPROVING TOBACCO, TOBACCO "STRIPS" (?) AND TOBACCO PRODUCTS. [1963] 4p. 8 refs.
Order from OTS or SLA $1.10 63-16592

Trans. of German patent 1,003,639, B 34815 IVa/79c, appl. 9 Mar 55, pub. and distributed 28 Feb 57.
Another trans. is available from K-H $5.00 as K-H-9730 [1962] 4p.

DESCRIPTORS: *Tobacco, *Cigarettes, Smokes, *Taste, Additives.

The invention concerns a process for improving tobacco, tobacco strips, and tobacco products, characterized in that a fused mixture, emulsifiable in water or tobacco sauces, of higher aliphatic paraffins and aliphatic carboxylic acids, which, separately, are known to be suitable for the same purpose, is added to the material under treatment, preferably with the addition of an emulsifier. (Author)

Burmistrova, M[ariya] F[edorovna] Komol'kova, I. K. and others.
PHYSICOMECHANICAL PROPERTIES OF AGRICULTURAL CROPS. 1963, 250p. 130 refs. PL-480 Agr.
Order from OTS $2.50 61-31216

Trans. of mono. Fiziko-Mekhanicheskie Svoistva Sel'skokhozyaistvennykh Rastenii, Moscow, 1956 [343p.].

DESCRIPTORS: *Plants (Botany), Agriculture, Physical properties, Mechanical properties, *Agricultural machinery, Cereals, Fabacea, Vegetable oils, Vegetables, Tobacco, Hops, Grasses.

Basic experimental data is given on the physicomechanical properties of wheat, rye, barley, oats, rice, maize, soya, groundnuts (Arachis), sunflower, castor, seed flax, potatoes, sugar beets, white cabbage, carrots, beets, makhorka (Nicotina rustica L.) tobacco, ambari (Hisbiscus cannabinus), hops, grass, and hay. The work was carried out in connection with the design of harvesting machines and hence did not involve the study of plants as a whole.

Deppe, K. and Seehofer, F.
PHOTOMICORGRAPHS ON THE HISTOLOGY AND ANATOMY OF TOBACOO. [1962] 4p. (figs. omitted).
Order from SLA $1.10 63-16955

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 5, p. 171-175.
Another trans. is available from K-H $5.00 as K-H 11816d [1962] 4p.

DESCRIPTORS: *Microphotography, *Histology, Anatomy, *Tobacco.

Favreau, Pierre.
SOME ASPECTS OF TOBACCO FERTILIZING. [1962] 4p.
Order from SLA $1.10 63-16912

Trans. of Rev[ue] Internat[iona]l[e] d[es] Prod[uits] Trop[icaux] et du Mater[iel] Trop[ical] (France) 1960, v. 35, no. 372, p. 181 and 191.
Another trans. is available from K-H $5.00 as K-H-11411-a, 1962, 4p.

DESCRIPTORS: *Tobacco, Plants (Botany), *Fertilizers.

Paramonov, Aleksei Yakovlevich.
AERIAL CONTROL OF FOREST PESTS IN THE U. S. S. R. (Aviatsiya v Bor'be s Lesnymi Vreditelyami v SSSR). 1963, 54p. 116 refs. PL-480 Agr.
Order from OTS $0.75 63-11087

Trans. of [Institut zur Erforschung der USSR]. Issledovaniya i Materialy: Seriya 1, 1959, no. 49, p. 5-76.

DESCRIPTORS: *Pest control, Plants (Botany), Insect control, *Trees, Forestry, Insecticides.

Topics include: First years of aerochemical pest control; aerochemical method and the beginning of its extensive use; a time of disappointments and of search for new ways; aerochemical pest control after World War II; modern technique of aerial pest control application in the U. S. S. R. and its specific features as compared with practice abroad; critical numbers of pests and economic considerations determining the expediency of control; and, particulars of training forest protection specialists in the U. S. S. R.

Shilova, E. I.
A METHOD OF OBTAINING SOIL SOLUTIONS UNDER NATURAL CONDITIONS (Method Polucheniya Pochvennogo Rastvora v Prirodnykh Usloviyakh). July 63 [11]p. 2 refs. RTS-2302.
Order from OTS or SLA $1.60 63-23240

Trans. of Pochvovedenie (USSR) 1955, no. 11, p. 86-90.

DESCRIPTORS: *Soils, Solutions, Moisture, Analysis, Soil mechanics.

A method is proposed for the embedding of lysimeters in the soil and insulating them from contact with the external atmosphere, enabling a soil solution to be obtained in a condition close to its natural state. Under moist climatic conditions, the passage of soil solution into the lysimeters continues throughout almost the whole year. The proposed method cannot be used for the quantitative assessment of the moisture, seeping into the soil, but it does make it possible to reveal certain qualitative characteristics in regard to the movement of moisture through the levels of soil. (Author)

Volarovich, M. P. and Churaev, N. V.
RESEARCH ON THE HYDROPHYSICAL CHARACTERISTICS OF PEAT AND ON THE PROCESSES INVOLVED IN THE MOVEMENT OF MOISTURE IN PEATY SOILS. [1963] [17]p. 34 refs.
Order from OTS or SLA $1.60 AEC-tr-5583

Trans. of mono. I[nternational] A[tomic] E[nergy] A[gency] Symposium on Radioisotopes in Soil-Plant Nutrition Studies, Bombay, 26 Feb-2 Mar 62. Proceedings, 1962, p. 171-185.

DESCRIPTORS: *Peat, *Moisture, Soils, *Soil mechanics, Radioactive isotopes, Tracer studies, Hydrology.

Using a non-sorbable radioactive indicator (S-35, I-131), water was extracted from saturated samples to determine the structural parameters of peat (dimensions of pores, kinetic specific surface, active porosity). Radioindicator method of determining the volume of water which does not act as solvent were devised to measure the content of immobilized, intracellular, and capillary water. Using these methods, quantitative characteristics were obtained for the pore structure and the hydrological properties of various peaty soils. The method of labeled atoms was also used in studying water movements in peaty soils. A number of field methods devised for investigating the processes of water filtration in peaty soils make it possible to study the water-conducting properties of such soils, and to measure the speed and direction of moisture fluxes. A structural classification of peat strata was carried out on the basis of this work, and recommendations were made regarding more effective methods of draining such soils.

ASTRONOMY

JOURNAL OF ASTRONOMY, 1962, VOL. 10, NO. 2: SELECTED ARTICLES. 2 Aug 63, 6p. JPRS: 20475
Order from OTS $0.50 53-31442

Trans. of T'ien Wen Hsüeh Pao (Chinese People's Republic) 1962, v. 10, no. 2, p. 208-210.

DESCRIPTORS: *Astronomy, *China, Scientific organizations, Scientific research

Contents:
1962 meeting of the Chinese Astronomical Society, by Huang Chien-shu
Scientific activity of Shanghai astronomers in 1962, by Wu Shou-hsien and Chou Hui-ch'eng.

Elenevskaya, N. B.
THE INVESTIGATION OF THE CONVERGENCE DOMAINS OF THE COORDINATE EXPANSIONS OF UNDISTURBED MOTION. Feb 63 [22]p. 5 refs.
Order from OTS or SLA $2.60 63-14736

Trans. of #Astronomicheskii Zhurnal (USSR) 1962, v. 39, no. 5, p. 938-950.

DESCRIPTORS: *Celestial mechanics, Motion, *Equations of motion, *Taylor's series, *Fourier analysis, *Series, Complex variables, Trajectories.

The possibility is considered of expansion of the eccentric anomaly and the coordinates of undisturbed motion in a power series in the eccentricity increment $(e - e_0)$. The convergence of such series for elliptical and hyperbolic motions is investigated. An equation is obtained for the so-called $\ll$ particular curve of Keplerian motion $\gg$. This curve limits the region of the complex plane, in which there exists a finite circle of convergence for any given value of the eccentricity e. Expansions of the eccentric anomaly and its functions, converging not along the whole trajectory, but only up to definite values of the mean anomaly, are considered. Two types of such expansions are studied: in power series in (1 - e), where e is the eccentricity of the orbit of a moving point, and in Fourier (or Loran) series in multiples of the eccentric anomaly. As is shown the regions of these expansions will partially overlap. (Author)

Kiepenheuer, K. O.
NOTES ON THE STRUCTURE OF THE TURBULENT SOLAR ATMOSPHERE. [1963] 26p. (figs. omitted) 14 refs.
Order from SLA $2.60 63-18431

Trans. of Zeitschrift für Astrophysik (West Germany) 1960, v. 49, no. 2, p. 73-94 (Fraunhofer Institut. [Mitteilungen] (West Germany) no. 45).

DESCRIPTORS: *Solar atmosphere, Surface properties, Sunspots, Solar flares, Magnetic fields, Astronomy, Spectroscopy.

The observation of thread-shaped loops in the photosphere is reported (length $\lesssim$ 8000 km, thickness $\lesssim$ 1500 km) which preferably occur in the vicinity of spots showing strong changes of their magnetic field. The chromospheric structures in a center of activity are reduced to the following basic elements, which all together form the well known vortex structure: Dark elongated structures ($\sim$1500 x 4000 km) visible only in the wing of Hα, probably to be identified with spicules, arranged in the form of hedges; long threads, visible only in Hα (length 20 000 to 100 000 km, thickness $\lesssim$ 1000 km), which connect spots of opposite polarity or a spot with its surrounding or two points outside the spots, the points of intersection always falling on the hedges; some threads in the form of loops; bright dots (diameter in Hα < 1500 km, in K3 $\lesssim$ 2500 km); bright regions in Hα and K_3 with dimensions < 5000 km in the very vicinity of spots. The observed photospheric and chromospheric threads and loops are interpreted as flux tubes of the deep seated magnetic field, which have penetrated the photospheric granulation outside the sunspots. (Author)

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO. 64. 1 Aug 63, 34p. JPRS: 20462
Order from OTS $16.00/year 61-11147-64
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, *Astronautics, *Upper atmosphere, *Space probes, USSR, *Astrophysics, *Meteorology, *Oceanology.

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

Badinov, I. Ya.
THREE-STAGE PHOTOELECTRIC TRANSISTORIZED TRACKING SYSTEM (Trekhstupenchataya Fotoelektricheskaya Sledyashchaya Sistema na Transistorakh). 6 June 63 [10]p. 2 refs. AID Rept. T-63-81.
Order from OTS or SLA $1.10 63-23135

Trans. of Iskusstvennye Sputniki Zemli (USSR) 1962, v. 14, p. 74-80.

DESCRIPTORS: *Tracking, *Photoelectric cells (Semiconductor), *Optical equipment components, *Solar radiation, Design, Operation, Measurement.

The tracking system is designed for installation in the gondola of a free balloon, and is intended for the continuous orienting of solar measurement equipment (actinometric, spectral, ozonometric, etc.) toward the sun during investigation of direct solar radiation in the free atmosphere. The equipment, small in size and weight (3 to 4 kg), can fix itself directly on the sun. For heavier instruments installed inside the gondola, a mirror has been provided, which will direct a parallel beam of solar rays, and which is stabilized in relation to the instrument (cross-section area of beam, 45 cm^2). (Author)

Bruzek, Anton.
THE FILAMENTS AND ERUPTIONS OF AN ACTIVITY CENTER. Communication no. 34 from the Frauenhofer Institute. [1963] [38]p. (figs. omitted) 13 refs.
Order from SLA $3.60 63-16303

Trans. of Zeitschrift fur Astrophysik (West Germany) 1958, v. 44, no. 3, p. 183-202 (Fraunhofer Institut. Mitteilungen (West Germany) no. 34).

DESCRIPTORS: *Sun, Sunspots, *Solar flares, Solar atmosphere, Solar disturbances, Optical properties, Spectrographic analysis, *Solar corona.

By means of Hα-filtergrams secured at the Capri station of the Fraunhofer Institute an old center of activity has been followed on its passage across the solar disk from June 23 to July 6, 1957. The behaviour of its filaments was studied extensively and a detailed description is given of its larger flares (including the big one of July 3) and of associated phenomena partly unknown hitherto. Some conclusions are drawn on the relations between changes of magnetic spot field, flare and filament activity and chromospheric structure. (Author)

Korobova, Z. V.
SYSTEMATIC ERRORS IN THE ESTIMATION OF SUNSPOT AREAS FROM VISUAL AND PHOTOGRAPHIC OBSERVATIONS, tr. by P. A. Kazakov. [1963] 5p. figs. omitted) 6 refs. [CSIRO] Trans. no. 6422.
Order from OTS or SLA $1.10 63-23404

Trans. of Solnechnye Dannye (USSR) 1962, no. 3, p. 72-76.

DESCRIPTORS: *Sunspots, Measurement, Errors, Optical analysis, Photographic analyis.

The non-linearity in reducing visual and photographic systems is determined by a number of factors depending on the methods and instruments used. The main distinction between these systems is due to the effect of irradiation inherent in all photographic determinations. From this point of view, visual measurements of areas are more uniform. Certain errors are however also inherent in the visual methods of measurement, both random errors (personal errors of observers), and, occasionally, systematic (intrumental) ones. (Author)

Kotel'nikov, V. A., Dubrovin, V. M. and others.
RADAR OBSERVATION OF VENUS. [1963] [4]p. 7 refs. [DSIR] NLL M. 10052.
Order from OTS or SLA $1.10 63-23352

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 145, no. 5, p. 1035-1038.
Other translations are available from OTS or SLA $1.10 as 62-20397, Oct 62 [10]p. and as 63-13554, JPRS-16728, 17 Dec 62 [9]p.

DESCRIPTORS: *Radio astronomy, *Venus, *Radar signals, Radar reflections, Broadband, Narrowband, Radiofrequency spectroscopy.

For abstract see Technical Translations 9: 1190, 1963.

Kotel'nikov, V. A., Gus'kov, G. Ya. and others.
RADAR OBSERVATIONS OF THE PLANET MERCURY. [1963] 7p. 9 refs.
Order from OTS or SLA $1.10 63-18149

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 6, p. 1320-1323.
Another trans. is available from OTS $0.50 as 63-21357, JPRS-18211, 19 Mar 63 [8]p.

DESCRIPTORS: *Mercury (Planet), *Radio astronomy, Radar signals, Reflection, Measurement.

For abstract see Technical Translations 10: 125, 1963.

Parenago, P. P.
MOTIONS OF LONG-PERIOD CEPHEIDS AND GALACTIC DYNAMICS [Dvizheniya Dolgoperiodicheskikh Tsefeid i Galakticheskaya Dinamika]. [1963] [23]p. (figs. tables omitted) 2 refs.
Order from OTS or SLA $2.60 63-14914

Trans. of Moscow [U.] Gos[udarstvennyi] Astr[onomicheskii] Inst[itut]. Trudy (USSR) 1949, v. 16, p. 71-92.
Another trans. is available from SLA as RT-3980, 41p.

DESCRIPTORS: *Variable stars, *Stars, Galaxies, Sun, Motion, Rotation, Velocity, Determination.

Saakyan, R. A.
ON THE ADDITIONAL ACCELERATION IN THE MOTION OF CELESTIAL BODIES. Feb 63 [13]p. 2 refs.
Order from OTS or SLA $1.10 63-14730

Trans. of #Astronomicheskii Zhurnal (USSR) 1962, v. 39, no. 5, p. 931-937.

DESCRIPTORS: *Celestial mechanics, *Solar systems, Motion, Gravity, Acceleration, Equations of motion, Satellites (Artificial), Astrophysics

It is shown that due to the curvilinear motion of the center of gravity of a binary system, additional acceleration appears in the equation of relative motion. It is expressed by $S=2\left[\frac{d\vec{r}}{dt}\vec{w}\right]+\left[\vec{w}\left[\vec{r}\vec{w}\right]\right]+\left[\vec{r}\frac{d\vec{w}}{dt}\right]$, where $\vec{w}$ is the angular velocity of motion of the center of gravity, $\frac{d\vec{r}}{dt}$ — the velocity of relative motion in the rotating system, r — the distance between the components and [ ] the vector product. Up to the present several problems in astronomy have been solved without allowing for the above acceleration. These include problems on the relaxation of stellar systems and relative motion in binary systems (the motion of planets relative to the sun, tidal phenomena on the earth, etc.) In more precise solutions it is necessary to take the above circumstance into account. (Author)

Stepanov, V. E.
THE INTENSITY DISTRIBUTION AT THE SUN'S LIMB FOR λ 3400, 3670, 4370, 4825, 5310 AND 6055 Å (Raspredelenie Intensivnosti na Krayu Diska Solntsa dlya λ 3400, 3670, 4370, 4825, 5310 i 6055 Å). July 63 [21]p. 23 refs. RTS 2261.
Order from OTS or SLA $2.60 63-23250

Trans. of [Moscow U.]. Gosudarstvennyi Astronomicheskii Institut. Soobshcheniya (USSR) 1957, v. 100, p. 36-50.

DESCRIPTORS: *Sun, Solar corona, Continuous spectrum, Optical properties, Spectrophotometers, Stars, Spectrographic analysis, Solar atmosphere, *Solar spectrum.

Strizhevskaya, L.
ONE MORE PORTRAIT OF THE MOON. 10 May 63 [7]p. (figs. omitted). FTD-TT-63-335.
Order from OTS or SLA $1.10 63-23189

Unedited rough draft trans. from Izvestiya (USSR) 1962, 9 Sep. p. 3.

DESCRIPTORS: *Moon, *Infrared photography, Infrared equipment, Television communication systems, Astrophysics.

A popularized discussion concerning infrared photography in astronomy. Special attention is given to a photograph of the moon obtained by N. F. Kuprevich with the aid of an infrared television apparatus.

Vashakidze, M. A.
ON THE DEGREE OF POLARIZATION OF RADIATION FROM THE NEAR EXTRAGALACTIC NEBULAE AND THE CRAB NEBULA (O Stepeni Polyarizatsii Izlucheniya Blizkikh Vnegalaktichekikh Tumannostei i Krabovidnoi Tumannosti) tr. by A. Pingell. 13 June 63, 4p. 2 refs. NRL Trans. no. 942.
Order from OTS $0.50 63-11670

Trans. of Astronomicheskii Tsirkulyar (USSR) 1954, no. 147, p. 11-13.

DESCRIPTORS: *Nebulae, *Stars, *Galaxies, *Optical properties, *Polarization, Solar radiation, Astronomical cameras, Photographic analysis, Astrophysics.

The earlier types of the nebulae exhibit degree of polarization than the later ones, which is in agreement with the concept, advanced by the Academician V. A. Ambartsumyan, that the evolutionary sequence of the extragalactic nebulae, according to the Hubble types, should be presented inversely. The extragalactic nebulae, which show a considerable degree of polarization, in the majority of cases, are "radio galaxies" or "radio nebulae". (Author)

Yakovkin, A. A.
AN UNSOLVED ASTROMETRICAL PROBLEM. Mar 63 [20]p. 22 refs.
Order from OTS or SLA $1.60 63-14427

Trans. of #Astronomicheskii Zhurnal (USSR) 1962, v. 39, no. 4, p. 736-745.

DESCRIPTORS: *Moon, Extraterrestrial topography, Models (Simulations), Position finding, Photographs, Measurement, Astrophysics, Geodesics.

The absence is noted of a generally agreed to method for the reduction of observations made for determining the coordinates of the center of the moon's mass. Results of observations at six points are compared. These should be considered as direct results, which are independent of any preconceived hypothesis. Four models, used in the reductions of heliometric observations, are described. They explain some of the observed facts mentioned above. When testing any new model, the question of which of the six points it satisfies should be raised. (Translator)

BEHAVIORAL SCIENCES

Allain and Radat.
THE CEGOS SYSTEM: RULES FOR THE USE OF ELEMENTARY STANDARDS NO. 67 (MOTION STANDARDS). [1963] [87]p.
Order from SLA $8.60 63-14492

Trans. of Ufficio Tempi e Metodi Gomma (Italy). Publication-58, Sep 58.

DESCRIPTORS: Standards, Motion, Time, *Human engineering, *Industrial psychology, Positioning reactions.

Personnel and Training

BIOGRAPHIES OF SOVIET SCIENTISTS. 31 July 63, 71p. JPRS: 20435.
Order from OTS $2.00 63-31427

Trans. of 18 selected biographical articles from various Soviet sources.

DESCRIPTORS: *Biographies, *Scientific personnel, Personnel.

Contents:
A. P. Aleksandrov, S. A. Alimov, N. A. Bazilevskaya, O. L. Belgrad, P. A. Bogovskii, A. S. Bondartsev, G. I. Goldin, B. P. Konstantinov, M. T. Kozlovskii, V. A. Movchan, A. V. Nikolaev, V. A. Poddubnaya-Arnol'di, V. I. Razumov, G. V. Robustov, M. P. Rusakov, K. A. Soblevskaya, V. V. Sokolovskii, N. A. Torsuev.

RULING ON THE NAMING OF THE PRESIDENT, GENERAL SECRETARY AND MEMBERS OF THE FEDERAL COUNCIL FOR COORDINATING SCIENTIFIC RESEARCH. 30 July 63, 2p. JPRS: 20402.
Order from OTS $0.50 63-31411

Trans. from Sluzbeni List [Belgrade] (Yugoslavia) 1963 [v. 19] no. 23, p. 483.

DESCRIPTORS: Scientific research, Personnel, *Scientific organizations, *Presidents.

A listing is given of the appointees and their affiliations.

Psychology

Fedorov, V. K.
SOME PHYSIOLOGICAL MECHANISMS IN THE INITIAL PERIOD OF A CHILD'S MENTAL LIFE. [1963] [12]p.
Order from OTS or SLA $1.60 63-15944

Trans. of #Voprosy Psikhologii (USSR) 1961 [v. 7] no. 4, p. 101-108.

DESCRIPTORS: *Behavior, *Conditioned reflex, *Cerebral cortex, Brain, Training, Nervous system, *Infants.

Hirvonen, Leo, Lahikainen, E. A., and Peltonen, Tuomas.
ABOUT THE SMOKING OF SERVICEMEN. Preliminary rept. from the Office of Cardiodiagnosis of the University of Turku and from the Military Hospital no no. 2.
Order from SLA $1.10 63-16033

Trans. of Sotilaslaak[etieteellinen] Aikak[auslehti] (Finland) 1960, v. 35, p. 220-227.

DESCRIPTORS: *Smokes, *Cigarettes, *Military personnel, Army, Behavior.

The smoking habits of servicemen were investigated by using a questionnaire among 476 privates being discharged. There were 325 smokers. Among the city dwellers three-fourths were smokers. Of the smokers 61.2% had started habitual smoking at the age of 16-18 years. The form of tobacco most commonly smoked is a full cigarette and the most common quantity 1/2-1 pack per day. The fathers of the smokers smoked in at least 60% of the cases, and the fathers of the nonsmokers smoked in at least 50% of the cases. The corresponding figures for mothers were 3.7% and 2.6% respectively. As the most common reason for starting smoking the men mentioned the influence of friends. While in the service about one-half of the smokers reported the consumption of tobacco unchanged, one-third mentioned that it had increased and one-sixth that it had decreased. In 15 cases smoking had started in the Army (4.6% of the smokers and 3.2% of the entire group), and nine men reported that they had quit smoking in the Army. (Author)

Alikhanyan, S. I.
INDUCED MUTAGENESIS IN THE SELECTION OF MICROORGANISMS. [1963] [48]p. 51 refs. FASEB manuscript no. S 204-2
Order from OTS or SLA $4.60 63-23045

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1962 [v. 27] no. 4, p. 544-575.

DESCRIPTORS: *Mutations, *Genetics, Micro-organisms, Antibiotics, *X-rays, *Ultraviolet radiation.

Preiss, W.
ON TOBACCO. [1963] 4p.
Order from K-H $5.00 K-H-5497d

Trans. of Chem[iker] Z[ei]t[ung] (Germany) 1932 [v. 56] no. 63, p. 623-624.

DESCRIPTORS: *Tobacco.

Vinberg, G. G.
THE PRIMARY PRODUCTION OF BODIES OF WATER. May 63, 601p. 641 refs.
Order from OTS $7.00/2 books AEC-tr-5692, bks. 1-2

Trans. of mono. Pervichnaya Produktsiya Vodoemov, Minsk, 1960.
A trans. of table of contents only is available from ATS $2.25 as ATS-18M44R [1960] 2p.

DESCRIPTORS: *Oceans, *Natural resources, *Marine biology, Aquatic animals, Algae, Ecology, Plankton, Carbon, Isotopes, Oxygen, Lakes, Sea water, Energy, Solar radiation, Photosynthesis, Chlorophylls, Production, Measurement, Bibliographies, Oceanology.

BIOLOGICAL SCIENCES

Anatomy and Physiology

PROBLEMS OF PHYSIOLOGY OF HIGHER NERVOUS ACTIVITY AND OF THE NERVOUS SYSTEM (Voprosy Fiziologii Vysshei Nervnoi Deyatel'nosti i Fiziologii Nervnoi Sistemy) tr. by Y. S. Halpern. 1963, 432p. PL-480 HEW.
Order from OTS $4.50 63-11173

Trans. of Akademiya Nauk SSSR. Institut Fiziologii. Trudy, 1962, v. 10.
##Another trans. of p. 294-302 is available from OTS or SLA $1.60 as 62-20360 [1962] [15]p.

DESCRIPTORS: Physiology, Brain, Cerebral cortex, *Nervous system, *Conditioned reflex, *Motor reactions, *Mental diseases, *Neuroses, *Caffeine, *Hypnosis, *Electroencephalography, *Bioelectronics, *Neuromuscular transmission, Hypertension, Primates, *Analyzers (Psychology), Food, Animals, *Pain, Bees, *Oxygen consumption, Metabolism, Birds, *Spinal cord, *Liver, Diseases, Nerves, *Stomach, *Body fluids, Rhythm (Biology), Gastrointestinal system, *Glutamine, Ammonia, *Narcotics, Evolution, Autonomic nervous system, *Nerve cells, Skin, *Body temperature, Musculoskeletal system.

Contents:

Conditioned motor reflexes after separation of anterior and posterior parts of the cerebral cortex of cats, by A. S. Batuev

Dynamics of changes in magnitudes of conditioned reflexes following decrease in physical intensity of the conditioned stimulus, by A. S. Denisova

Study of the relationship between signalling systems in neurasthenia and hysteria, by A. F. Dmitrieva

The role of signalling systems in the formation of conditioned reflexes to spatial location of objects in 2-4-year old children, by A. N. Znamenskaya

Effect of caffeine on higher nervous activity of rabbits, by M. K. Kalinina and G. I. Tsobkallo

The influence of quantity and quality of food reinforcement and of the degree of alimentary excitability on conditioned reflex activity in lower apes (baboons) by O. P. Bolotina

Typological peculiarities of higher nervous activity of sheep dogs of the central Asian type, by V. N. Burdina and E. F. Melikhova

Effect of pain stimulations on the development of a passive-defense reflex during ontogenesis, by N. M. Vavilova and M. P. Klyavina

Characterization of inhibition of delay in lower apes, by N. A. Krasuskaya and B. V. Pavlov

Motor stereotype of conditioned reflexes in the food-obtaining activity of the honey bee, by N. G. Lopatina and E. G. Chesnokova

Studies of the typological properties of the nervous system and of gas exchange in rodents, by R. P. Ol'nyanskaya and others

Delayed conditioned alimentary reflexes in pigeons and canaries, by B. V. Pavlov and V. I. Saf'yants

Delayed conditioned reflexes in fish, by N. V. Prazdnikova

Effect of stimulation impulses on the inhibitory foci in the spinal cord, by L. L. Vasil'ev and Z. A. Sosnovskaya

##Effect of certain substances on the concentration of ammonia and glutamine in the brain during liver function disorders, by B. G. Gordon

Electrophysiological characteristics of efferent impulsation in the nerves of the stomach, by V. E. Delov and others

Afferent and humoral influences on the rhythmic bioelectric processes in the spinal cord, by Yu. N. Zubilov and P. A. Kiselev

Characteristics of action of various narcotics on the reflexes of the cervical and lumbar regions of the spinal cord, by O. B. Il'inskii

Certain patterns of evolution of the brain associated with the spread of pathological processes, by A. S. Iontov

Automatic gesticulation of the wrist, by N. A. Kryshova

The dynamics of structural changes in live interneuron connections (synapses) under experimental conditions.

Localization of conditioned inhibition following suggestion during hypnosis, repts. 1-2, by I. I. Korotkin and M. M. Suslova

Generalized changes in the electroencephalogram of a cat during differentiation of stimuli, by Yu. G. Kratin

The effect of the roles of direct electric current on positive conditioned defense motor reflexes, by N. P. Movchan

Experimental clinical investigation of the lability of nervous processes in patients suffering from neuroses, by L. G. Pervov

Conditioned trace inhibition in the hypersthenic and asthenic forms of neurasthenia, by T. V. Pleshkova

Effect of changing duration of trace intervals on speed of elaboration and nature of conditioned vascular trace reflexes under normal conditions and in hypertensive patients, by E. I. Rozova

Contitioned trace reflexes in patients suffering from neuroses with a phobic syndrome, by G. S. Sokolova

Experimental neurosis after collision of conditioned reflexes and direct stimulation of the cerebral cortex, by N. F. Suvorov

Experimental neuroses induced by collision between conditioned reflexes to direct stimulation of the cortex and subcortex, by N. F. Suvorov

Selective systematism in cerebral cortical function of higher apes (chimpanzees) by A. I. Schastnyi

Study of higher nervous activity in four generations of offspring of trained and untrained parents by the method of conditioned motor defense reflexes, by V. K. Fedorov

Characterization of trace (delayed) reactions in the chimpanzee, by L. A. Firsov

Inhibition of delay of alimentary motor reflexes in dogs, by D. A. Chebykin

Certain characteristics of differentiating inhibition in response to an interoceptive conditioned stimulus, by K. B. Shapovalova

Changes in higher nervous activity of dogs following partial removal of or damage to the frontal lobes of the brain, by N. A. Shustin

The problem of analyzing activity in rats, by M. S. Alekseeva

Data characterizing the delayed conditioned reflexes in rabbits, by A. V. Baru

by V. N. Maiorov
Reflex changes in the skin temperature of rabbits in relation to muscular activity, by E. L. Sklyarchik
The dynamics of development of functional changes in the central nervous system of dogs after deafferentation of a limb, by A. T. Khudorozheva
List of works of the Pavlov Institute of Physiology published in 1960

Arshavskii, I. A.
SOME CHARACTERISTICS OF THE CURVE OF WEIGHT CHANGES IN NEWBORN RABBITS AND WHELPS. [1963] 5p. 3 refs.
Order from OTS or SLA $1.10 63-16515

Trans. of Byulleten' Eksperimental'noi Biologii i Meditsiny (USSR) 1954, v. 38 [no. 8] p. 63-65.

DESCRIPTORS: *Body weight, Rabbits, Dogs, Growth, Infants, *Feeding.

Isakov, P. K. and Stasevich, R. A.
THE EFFECT OF ACCELERATION ON THE HUMAN BODY [AND] WEIGHTLESSNESS. 26 July 63, 63p. JPRS: 20345.
Order from OTS $1.75 63-31379

Trans. of mono. Skorosti, Uskoreniya, Nevesomost' (Velocity, Acceleration, Weightlessness) Moscow, 1962, chaps. 4-5, p. 81-147.

DESCRIPTORS: *Acceleration, *Acceleration tolerance, *Weightlessness, Body, Space flight, Perception, Ear, *Gravity.

Leao, Aristides A. P.
CIRCULATION IN THE PIA MATER AND DEPRESSION OF THE ACTIVITY OF THE CEREBRAL CORTEX (Circulação na Pia-Mater e Depressão Alastrante da Atividade do Cortex Cerebral). 28 Mar 58, 3p. 1 ref.
Order from SLA $1.10 63-16570

Trans. of Acad[emia] Bras[ileira de] Ciencias. Anais, 1954, v. 26, no. 3/4, p. XXII-XXIII.
Also available from SLA as 58-796.

DESCRIPTORS: *Blood circulation, *Meninges, *Cerebral cortex, Physiology, Brain.

Markova, I. V.
THE IMPORTANCE OF THE HYPOPHYSEAL-ADRENAL SYSTEM FOR THE FUNCTIONING OF THE ENCEPHALIC BARRIER. [1963] 22p. 33 refs.
Order from OTS or SLA $2.60 63-16453

Trans. of #Uspekhi Sovremennoi Biologii (USSR) 1962, v. 53, no. 3, p. 347-363.

DESCRIPTORS: Endocrine glands, Secretions, *Pituitary gland, *Adrenal glands, Physiology, *Hemato-encephalic barrier, *Blood circulation, Brain.

Solov'ev, N. A.
THE MECHANISM OF THE BIOLOGICAL ACTION OF A PULSED MAGNETIC FIELD. 3 May 63 [8]p.
Order from OTS or SLA $1.10 63-16410

Trans. of Akademiya Nauk SSSR. Doklady, 1963 v. 149 [no. 2] p. 438-441.

DESCRIPTORS: *Magnetic fields, *Retina, Stimulation, Bioelectronics, Biophysics, Electromagnetic pulses.

In the onset of phosphene under the action of a pulsed magnetic field of the order of threshold values, the induced EMF's and currents are without significance; the magnetic field itself is therefore biologically active. An increase in the intensity of phosphene (or a corresponding decrease in its threshold amplitude) on increasing the length of the magnetic field pulses in the region of 15-40 milliseconds, when the magnetic field intensity is practically unchanged is an indication of the relatively slow process taking place in media sensitive to the magnetic field. At the same time, the rate of these processes depends on the magnetic field intensity, since the threshold length decreases with increasing intensity. The published data related to this self-experimentation lead to the conclusion that further studies and tests are necessary to explain the biological mechanism of the phenomenon. The method of pulsed, exponentially increasing fields, with damping of the spurious currents arising from circuit interruption, may serve as a basis for these studies. (Author)

Teichmann, Richard.
CONTRIBUTIONS TO THE HISTOLOGICAL STRUCTURE OF THE MANDIBULAR JOINT. [1963] 4p.
Order from SLA $1.10 63-16717

Trans. of mono. Inaugural dissertation, Leipzig U. [Germany] 1923.

DESCRIPTORS: Histology, Morphology, Head, *Joints (Physiology), *Neuroskeletal system, Cartilage, Tendons.

Vladimirov, G. E. and Sytinskii, I. A.
SURVEYS AND THEORETICAL PAPERS: METABOLISM OF γ-AMINOBUTYRIC ACID AND ITS ROLE IN THE FUNCTIONAL ACTIVITIES OF THE NERVOUS SYSTEM. [1963] 26p. (formulae charts omitted) 12 refs.
Order from OTS or SLA $2.60 63-16456

Trans. of #Uspekhi Sovremennoi Biologii (USSR) 1961, v. 51, no. 1, p. 3-20.
Another trans. is available from OTS or SLA $2.60 as 61-27216, JPRS-9653, 10 July 61 [26]p. 99 refs.

DESCRIPTORS: *Canavanine, *Amino acids, *Metabolism, *Nervous system, Physiology.

Biochemistry

Cheruvimova, V. A.
AMMONIA, GLUTAMIC ACID AND GLUTAMINE IN THE BRAIN DURING ONTOGENY UNDER THE INFLUENCE ON THE ORGANISM OF OXYGEN UNDER PRESSURE. [1963] 4p.
Order from OTS or SLA $1.10 63-16455

Partial trans. (tables only) of Ukrains'kyi Biokhimichnyi Zhurnal (USSR) 1962 [v. 34] no. 2, p. 230-235.

DESCRIPTORS: *Ammonia, *Glutamic acids, *Glutamine, *Pressure breathing, Oxygen, *Aging (Physiology), *Brain.

Karyakin, A. V. and Chibisov, A. K.
SPECTRAL STUDY OF THE STATE OF WATER IN CHLOROPHYLL. [1963] [7]p. 11 refs.
Order from OTS or SLA $1.10 63-16722

Trans. of #Biofizika (USSR) 1962, v. 7, p. 561-567.

DESCRIPTORS: *Chlorophyll, *Water, *Infrared spectroscopy, *Fluorescence, *Plant pigments, Heavy water, Isotopes, Chemical bonds, Spectra (Infrared).

Studies were made of infrared absorption spectra of solid films and solutions of chlorophylls, absorption spectra in the visible region, and also fluorescence spectra of pigment solutions. It was established that the bound water in chlorophyll a and b has different strengths of binding and a corresponding difference in the rate of isotope exchange with D_2O. It is supposed that the site of reaction of chlorophyll a with water appears to be the oxygen atom of the cyclopentane ring. It was shown that water bound by the pigment exerts a strong influence on the electronic absorption and emission spectra of the chlorophylls. (Author)

Oparin, A. I.
THE ORGANIZATION OF LIVING MATTER. [1963] [46]p. 55 refs. [DSIR NLL] M. 2225.
Order from OTS or SLA $4.60 62-24076

Trans. of mono. Die Entstehung des Lebens auf der Erde (The Origin of Life on Earth) Berlin/Leipzig, 1949, chap. 7 (German edition of Russian mono., 2 ed. rev., n.p., 194-?).

DESCRIPTORS: *Cells (Biology), *Albumins, Metabolism, Nucleic acids, Enzymes, Colloids.

Oparin has developed what may be considered the biochemical basis of the new Soviet Biology. In particular, "The Organization of Living Matter" may be found useful in understanding Olga Lepeshinskaya's recent discovery, that living cells in animals bodies can be formed not only from other living cells, but also from living, non-cellular, albuminous matter. (Translators comment)

Parrozzani, A.
ON THE PRESENCE OF LIPOIDS IN NICOTIANA IN RELATION TO THE STARCH AND NICOTINE, NOTE I. [1962] 32p.
Order from K-H $40.00 K-H 3902 b

Trans. of Accad[emia di] Sci[enze] Lett[ere] ed Arti [degli] Zelanti, Acireale. Rend[iconti] e Mem[orie: Rendiconti] (Italy) 1912/15, ser. 3, v. 7/8, p. 35-36.

DESCRIPTORS: *Lipids, *Tobacco, Starches, Nicotine.

Rubin, A. B., Minchenkova, L. E. and others.
MEAN DURATION OF PROTOCHLOROPHYLL FLUORESCENCE IN THE GREENING PROCESS OF ETIOLATED LEAVES. [1963] [8]p. 20 refs.
Order from OTS or SLA $1.10 63-16728

Trans. of #Biofizika (USSR) 1962, v. 7, p. 571-577.

DESCRIPTORS: *Chlorophylls, *Plant pigments, *Fluorescence, *Bleaching, Illumination, Photochemistry.

Measurements of the mean duration, τ, and the fluorescence spectra of etiolated leaves in the process of their illumination at + 20° showed that the value of τ does not remain constant, but displays changes. In the first minutes of illumination the value of τ for protochlorophyll 655 fluorescence falls from $(3.2\text{-}3.5)\cdot10^{-9}$ sec. to $(2.0\text{-}2.5)\cdot10^{-9}$ sec. The value of τ for the fluorescence of form 690, arising from protochlorophyll 655, is $(2.0\text{-}2.5)\ 10^{-9}$ sec, and the value of for chlorophyll form 680 is $5.0\ 10^{-9}$ sec. Long illumination of the etiolated leaf leads to aggregation of the chlorophyll and formation of the photosynthetic structure of chloroplasts and is accompanied by a fall in the value of τ at +20° and -196°. The mean duration of the excited state of protochlorophyll molecules in leaves increases substantially with lowering of the temperature from +20 to -196°, which appears to be a distinctive feature of the behavior of pigment molecules in the leaf in comparison with their behavior in solution. Under the influence of light at temperatures below -80°, there are formed in the etiolated leaf active products, not detectable spectrally, that cause the creation of form 690 upon increasing the temperature to +20°. (Author)

Shapot, V. S.
MECHANISM OF THE PASTEUR EFFECT, tr. by E. R. Hope. June 63 [8]p. 11 refs. DSIS T 389 R.
Order from NRCC NRCC C-4487

Trans. of Biokhimiya (USSR) 1945, v. 10, no. 1, p. 45-53.

DESCRIPTORS: *Cells (Biology), *Erythrocytes, *Nitrites, *Glycolysis, Pigeons, Hydrogen compounds, Peroxides, Respiration, Lactic acid, Hemoglobin, Anaerobiology.

Shlyk, A. A. and Stanishevskaya, E. M.
DARK BIOSYNTHESIS OF CHLOROPHYLL b IN GREEN PLANTS. [1963] [7]p. 26 refs.
Order from OTS or SLA $1.10 63-16730

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 144 [no. 1] p. 226-229.

DESCRIPTORS: *Dark adaptation, *Chlorophylls, *Plants (Botany), Biosynthesis, Photosynthesis, Tracer studies.

Sidorov, A. N. and Terenin, A. N.
A SPECTRAL STUDY OF PHOTOREDUCED PHEOPHYTIN a. [1963] [4]p. 11 refs.
Order from OTS or SLA $1.10 63-16731

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 145 [no. 5] p. 1092-1094.

DESCRIPTORS: *Chlorophylls, *Photosynthesis, Spectrographic analysis, Reduction (Chemistry), Biosynthesis, *Pheophytins.

Tombesi, Luciano.
COURSE OF SOME ENZYMATIC ACTIVITIES AND OF THE CONTENTS OF KETO ACIDS, PROTEIN NITROGEN, GLUCOSE, STARCH AND CITRIC ACID DURING THE PHASES OF THE VEGETATIVE CYCLE OF NICOTIANA TABACUM VAR. VIRGINIA BRIGHT. [1962] 37p.
Order from K-H $46.25 K-H 5547 d

Trans. of Staz[ione] Chim[ico]-Agrar[ia] Sper[imentale] Rome. Ann[ali]. Ser. III: Pubbl[icazione] (Italy) 1955, no. 116, p. 1-9; no. 117, p. 1-8; no. 119, p. 1ff.

DESCRIPTORS: *Tobacco, *Nicotine, Virginia, Phase transitions, Citric acids, Starches, Glucose, Nitrogen, Proteins, Acids, Ketones, *Enzymes.

Vladimirov, G. E.
THE REFLECTION OF ENERGY AND PLASTIC METABOLISM IN THE RENEWAL OF BIOCHEMICAL SUBSTRATE OF THE NERVOUS TISSUES. [1963] 10p. 10 refs.
Order from OTS or SLA $1.10 63-16457

Trans. of Akademiya Nauk SSSR. Institut Fiziologii. Trudy, 1959, v. 8, p. 526-531.

DESCRIPTORS: Energy, Metabolism, Brain, *Tissues (Biology), *Tracer studies, *Cytochemistry, Biosynthesis.

By means of radioactive isotopes the rate of renewal (restoration or renovation) of a large number of chemical components of brain tissue was-determined-the amino acid structure of proteins and glutathione, glucose residues of glycogen, the phosphate groups of phosphoproteins, lipoproteins, nucleic acids and phospholipids. This method also made it possible to determine the amount of energy liberated through the hydrolysis of ATP by measuring the constant of equilibrium of the hexokinase and phosphate reactions. The obtained figures enabled us to determine the proportion of total energy available consumed by the synthetic process in brain tussue. This amount proved to be rather insignificant, in the order of a few per cent. By far the greater proportion of this energy is used to maintain the functional activities of the brain and of nerve tissue. Under conditions of hypothermia, a sharp decline of functional activities occurs together with a sharp decline in the renewal of structural substances, while the reduction in the renewal of energy-producing substances is less marked. On the basis of these findings the hypothesis is advanced that the functional activities of the brain are maintained primarily by the metabolism of energy-producing substances via the renewal (or renovation or restoration) of structural substances. (Author)

Weinges, K. F.
INFLUENCE OF A PROLONGED ACTION GLUCAGON ON BLOOD SUGAR, INORGANIC SERUM PHOSPHATE, AND THE TOTAL AMINO ACIDS IN THE SERUM (Der Einfluss eines Protrahiert Wirkenden Glucagons auf den Blutzucker, das Anorganische Serumphosphat und die Gesamtaminosäuren im Serum). [1963] [9]p. (foreign text included) 7 refs.
Available from SLA on loan 63-18020

Trans. of Naunyn-Schmiedeberg's Archiv f[ür] Experimentelle Pathologie und Pharmakologie (West Germany) 1959, v. 237, p. 22-26.

DESCRIPTORS: *Blood chemistry, *Glucose, *Phosphates, *Amino acids, *Glucagon, *Zinc compounds, Metabolism, Serum.

The behavior of blood sugar, inorganic serum phosphate and the total amino acids in the serum were investigated in persons with normal metabolism after subcutaneous injection of 2 mg. of a delayed acting glucagon-zinc complex. No hyperglycemic effect is observed after ZN glucagon in contrast to the action of water-soluble crystalline glucagon, instead there is an equalizing effect on the blood sugar level. Inorganic phosphate and the total amino acids in the serum decreased more gradually and for a longer period of time after ZN glucagon than after water-soluble glucagon. According to the results to date, it can be concluded from the persisting decrease of amino acids that the duration of ZN glucagon action is about 9 hours. The prolonged action was confirmed on a female patient with hyperinsulinism. It appears possible that this disease can be better influenced with a prolonged action glucagon than with water-soluble glucagon. In comparison to earlier investigations the physiological action of glucagon appears to lie less in an increase of blood sugar but more in other metabolic actions (peripheral glucose utilization, protein metabolism), the clarification of which requires further investigations. (Author)

Botany

Engelbrecht, L.
CONTRIBUTIONS TO THE PROBLEM OF THE ACCUMULATION OF AMINO ACIDS IN LEAF CELLS. [1962] 18p. 16 refs.
Order from SLA $1.60 63-16682

Trans. of Flora [oder, Allgemeine Botanische Zeitung] (East Germany) 1961, v. 150, no. 1, p. 73-86.
Another trans. is available from K-H $22.50 as K-H 11095-e, 1962, 18p.

DESCRIPTORS: *Amino acids, *Plants (Botany), Cells (Biology), Tobacco.

The accumulation of amino acids is a characteristic of vitaly and juvenility of a leaf or a part of a leaf. This capacity primarily manifests itself if the accumulative tendency is different in two areas of the same leaf or in two organs which are correlated to one another. Then the tissue with the higher accumulative power becomes a tissue of attraction. This is the cause for the older leaves to deplete their stores for the benefit of the growing younger ones and die. Accumulation and attraction are not dependant upon these substances being used for synthesis. Thus α-aminoisobutyric acid is also accumulated, although it is not incorporated into protein. Besides the amino acids there are other substances (phosphate, sulfate, glucose) that are as well subjected to an accumulation. (Author)

Galev, Ivan.
THE EFFECT OF LEAF DISEASE (COLORATION) AND BURN ON THE CHEMICAL AND SMOKING PROPERTIES OF TABACCO. [1962] 13p. 8 refs.
Order from SLA $1.60 63-16674

Trans. of Bulgar[ski] Tyutyun, 1961, v. 6, no. 5, p. 26-33.
Another trans. is available from K-H $16.25 as K-H 11547-a [1962] 13p.

DESCRIPTORS: *Diseases, *Tobacco, Plants (Botany), Acceptability, Calcium, Carbohydrates, Aging (Materials).

Mashkovtsev, M. F.
EFFECT OF SOIL MOISTURE ON THE ACCUMULATION OF NICOTINE IN TOBACCO PLANTS. [1962] 11p.
Order from K-H $14.75 K-H 11401g

Trans. of [Vsesoyuznyi Nauchno-Issledovatel'skii Institut Tabaka i Makhorki. Sbornik Nauchnoi Trudov] 1960, v. 151, p. 83-89.
Another trans. is available from OTS or SLA $1.60 as 62-18835 [1962] 11p.

DESCRIPTORS: Soils, *Moisture, *Nicotine, *Tobacco, Plants (Botany).

Medical Specialties and Equipment

Babkin, S. I. and Bobrov, B. S.
NEW DEVICE FOR SUTURING STOMACH STUMPS (Novyi Apparat dlya Ushivaniya Kul'ti Zheludka) tr. by G. Belkov. 1963, 7p. NRCC Technical Trans. 1081.
Order from NRCC $0.50 NRCC C-4469

Trans. of Meditsinskaya Promyshlennost' SSSR, 1957 [v. 11] no. 4, p. 56-58.

DESCRIPTORS: *Surgical instruments, Stomach, Sutures, Surgery.

Bobrov, B. S.
DEVICE FOR APPLICATION OF SEROMUSCULAR SUTURES (Apparat dlya Nalozheniya Serozno-Myshechnykh Shvov) tr. by G. Belkov. 1963, 7p. NRCC Technical Trans. 1082.
Order from NRCC $0.50 NRCC C-4470

Trans. of Meditsinskaya Promyshlennost' SSSR, 1958 [v. 12] no. 12, p. 47-49.

DESCRIPTORS: *Surgical instruments, Surgery, Intestines, Stomach, Sutures.

Kukushkin, L. I., Burlakov, A. I., and Kalinina, T. V.
DEVICE FOR APPLYING MECHANICAL EPINEURAL SUTURES (Apparat dlya Nalozheniya Mekhanicheskogo Epinevral'nogo Shva) tr. by G. Belkov. 1963, 7p. 4 refs. NRCC Technical Trans. 1083.
Order from NRCC $0.50 NRCC C-4480

Trans. of Meditsinskaya Promyshlennost' SSSR, 1959 [v. 13] no. 3, p. 44-46.

DESCRIPTORS: *Surgical instruments, Surgery, Nerves, *Neurology, Sutures.

Microbiology

Chabbert, Y.
DEVELOPMENT OF BACTERIAL POPULATIONS RESISTANT UNDER THE INFLUENCE OF ANTIBIOTICS (Evolution des Populations Bactériennes Résistantes sous l'Influence des Antibiotiques). [1963] 14p.
Order from SLA $1.60 63-16514

Trans. of Inst[itut] Pasteur, Paris. Ann[ales] (France) 1959, v. 97 [no. 1] p. 41-52.

DESCRIPTORS: *Tolerances (Physiology), Bacteria, *Antibiotics, Drugs.

Ritter, D.
DETERMINATION OF CELL MULTIPLICATION IN TISSUE CULTURES (Uber die Bestimmung der Zellvermehrung in Gewebekulturen). [1963] 13p. 13 refs.
Order from SLA $1.60 63-18002

Trans. of mono. of Forschungslaboratorien der CIBA A.G., Pharmazeutische Abteilung, Basel, 1963,

DESCRIPTORS: Cells (Biology), Reproduction, *Tissue cultures, Temperature, Proteins, Antimetabolites.

The influence of the serum concentration in the culture medium, the influence of the incubation temperature and the influence of an antimitotic on cell increase and the protein content of the individual cells was examined on monolayer cultures. It was found that the protein content of one cell varies considerably with these culture conditions. For instance on addition of 0.1 μg. demecolcine/ml. to the culture medium, the cells contained 8.5 times as much protein on the average as the control cells without demecolcine. The quantity of protein per culture vessel therefore is an unreliable measure for the cell increase in tissue cultures. (Author)

Pathology

HISTORICAL NOTICES OF THE DAY. [1961] 1p.
Order from SLA $1.10 63-16915

Trans. of Münchener Medizinische Wochenschrift (West Germany) 1955, v. 97, p. 511-552.
Another trans. is available from K-H $1.25 as K-H 8025-a [1961] 1p.

DESCRIPTORS: Medicine, History, *Cancer, *Cigarettes, Smokes.

The consumption of cigarettes has further increased according to a report of the Statistical Bureau in Wiesbaden, 767 cigarettes were consumed in 1954 per inhabitant of the region, that is 11% more than in 1938. Cigar consumption, on the other hand was lower than before the war and the consumption of pipe tobacco was 33% less than before the war. A possible connection between smoking and cancer of the lungs is still the focal point of discussions, since numerous contradictions could not yet be elucidated. Though there is a parallel increase in the incidence of lung cancer and the consumption of tobacco in some states, the frequency of cancer of the lungs increased in central Europe already at the turn of the century, though cigarette smoking was generally introduced only after the First World War. The mortality due to lung cancer in Switzerland, Denmark, and the United States is about the same, but the Danes and the Swiss smoke only half as many cigarettes as the Americans. Less cigarettes are also smoked in England and Wales than in the USA, but the mortality in England and Wales is almost two and a half times as great. It is also remarkable that women suffer much more rarely than cancer of the lungs, though the consumption of cigarettes by women has increased during the last years. (Report quoted in its entirety)

IMPROVED FILTER FOR TOBACCO SMOKE.
21 Apr 63, 10p.
Order from OTS or SLA $1.10 63-16439

Trans. of Belgian patent 615,230, filed 16 Mar 62 (corresponds to British patent appl. 39,536/60, 17 Nov 60 and 9 Feb 62) by British-American Tobacco Co., Ltd.

DESCRIPTORS: *Cigarettes, Smokes, Tobacco, *Absorption (Physical), Gas filters.

The invention concerns a cigarette filter tip, comprising a cylindrical envelope containing between 60 and 400 mgr. of a zeolithic material which is capable of acting as a molecular sieve by absorbing molecules under a given size from the cigarette smoke, the material forming molecular sieve being in the form of particles of a size comprised between 20 and 100 mesh and having a water content of 10 to 25 %. (Author)

Beaulieu, Maurice.
LUNG CANCER. [1962] 8p. 2 refs.
Order from SLA $1.10 63-16929

Trans. of Laval Médical (Canada) 1961, v. 31, no. 5, p. 604-610.
Another trans. is available from K-H $10.00 as K-H 11279-h [1962] 8p.

DESCRIPTORS: *Lungs, *Cancer, *Cigarettes, Tobacco, *Smokes, Etiology.

Cigarettes play an important role in the mechanism of the appearance of lung cancer. The "precancerous" lesions attributable to this cancerigenic agent are basal hyperplasia, stratification, pavement-cell metaplasia and cancer "in situ." Cigarettes should be forbidden to the smoker who complains of respiratory difficulties. These difficulties emphasize the development of dysplastic lesions in the bronchial epithelium. The improvement of the results of the treatment of lung cancer demands an early diagnosis. This can be attained by a more frequent use of exploratory thoracotomy and by quickly and seriously conducted radiological and bronchoscopic investigations of all symptomatically predisposed persons. Cigarettes should be forbidden to the person affected with lung cancer who can benefit from resection and one should pursue an appropriate treatment of the associated pulmonary emphysema. (Author)

Berard, Jacques and Bouvet, Roger.
IN A YEAR ... IN A MONTH ... REFLECTIONS ON BRONCHIAL CANCER. [Feb 61] [22]p. 26 refs.
Order from SLA $2.60 63-16576

Trans. of J[ournal de] Médecine de Lyon (France) 1959 [v. 40] no. 955, p. 987-997.
Another trans. is available from K-H $25.00 as K-H-10643-a, Feb 61, 20p.

DESCRIPTORS: *Cancer, Lungs, Vital statistics, *Respiratory system, Cancer research.

Berfenstam, Ragnar and Bille, Bo S. V.
SMOKING DURING PREGNANCY AND THE NURSING PERIOD: SOME POINTS OF VIEW ON A QUESTION OF CURRENT INTEREST. [1962] 11p. 31 refs.
Order from SLA $1.60 63-16931

Trans. of Nordisk Medicin (Sweden) 1959, v. 62, 27 Aug, p. 1294-1296.
Another trans. is available from K-H $11.25 as K-H 9531 [1962] 9p.

DESCRIPTORS: *Smokes, *Pregnancy, Feeding, *Infants, *Cigarettes, Tobacco.

Blümlein, H.
ETIOLOGY OF LARYNGEAL CARCINOMA. [1963] 13p. 12 refs.
Order from SLA $1.60 63-16580

Trans. of der Krebsarzt (Austria) 1958, v. 13, no. 7, p. 322-330.
Another trans. is available from K-H $12.50 as K-H-8817-a [1962] 10p.

DESCRIPTORS: *Larynx, *Cancer, Etiology.

Bohnenkamp, H.
CONTRIBUTION TO THE EXOGENOUS CAUSES OF LUNG CANCER ON THE BASIS OF A CASE OF PROBABLE ARSENIC CANCER. [1963] 8p. 7 refs.
Order from SLA $1.10 63-16593

Trans. of der Krebsarzt (Austria) 1958, v. 13, no. 7, p. 318-322.
Another trans. is available from K-H $10.00 as K-H-8500-a [1962] 8p.

DESCRIPTORS: *Lungs, *Cancer, *Arsenic, Cancer research, Toxicity.

Brosch, Anton.
THEORETICAL AND EXPERIMENTAL INVESTIGATIONS ON THE PATHOGENESIS AND HISTOGENESIS OF MALIGNANT TUMORS, III. [1963] 61p. 52 refs.
Order from SLA $6.60 63-16589

Trans. of Virchow's Arch[iv für] Path[ologische] Anat[omie und Physiologie und Klinische Medizin] (Germany) 1900, v. 162, p. 32-84.
Another trans. is available from K-H $75.00 as K-H 9249-d [1962] 60p.

DESCRIPTORS: Pathology, Etiology, *Cancer, Histology, Tumors, Cancer research.

Bickel, G. and Rentchnick, P.
EARLY DIAGNOSIS OF PRIMARY PULMONARY CANCER. [1963] 19p. 29 refs.
Order from SLA $1.60 63-16582

Trans. of Revue Médicale de la Suisse Romande (Switzerland) 1952, v. 72, p. 27-44.
Another trans. is available from K-H $23.75 as K-H-10177-b, Sep 60, 19p.

DESCRIPTORS: *Lungs, *Canger, Diagnosis.

Budernik, A.
PROPHYLAXIS OF LUNG CANCER. [1963] 6p.
Order from SLA $1.10 63-16588

Trans. of Wiener Klinische Wochenschrift (Austria) 1961, v. 73, no. 14, p. 247-248.
Another trans. is available from K-H $7.50 as K-H-11279-f [1962] 6p.

DESCRIPTORS: *Lungs, *Cancer, Therapy, Public health.

Busson, André.
FOLLICULAR AND SEGMENTAL TERMINAL ENTERITIS (CROHN'S DISEASE) TREATED BY REGIONAL INFILTRATION OF NOVOCAINE (FORGET TECHNIC). [1963] 10p.
Order from SLA $1.10 63-16084

Trans. of Archives des Maladies de l'Apparell Digestif et des Maladies de la Nutrition (France) 1954, v. 43, Oct, p. 1095-1100.
Another trans. is available from SLA as 58-238.

DESCRIPTORS: *Gastrointestinal system, Diseases, *Lymphatic system, *Intestines, Therapy, Glands, Procaine.

Chojnowski, Joseph Richard and Dorabialska, Alice.
A PROBLEM OF CANCEROGENITY OF TOBACCO SMOKE ON THE BASIS OF RADIOACTIVITY TESTS. [1962] 12p. (figs. omitted) 20 refs.
Order from SLA $1.60 63-16944

Trans. of Polski Tygod[nik] Lek[arski] 1957, v. 12, no. 31, p. 1181-1184.
Another trans. is available from K-H $13.00 as K-H 6999-a [1962] 12p.

DESCRIPTORS: *Cancer, *Tobacco, *Smokes, Radioactivity, Tests, Carcinogenic agents, Cigarettes.

The activity of carbon in tobacco smoke collected during the burning of 101 cigarettes, compared to the activity of contemporary wood charcoal, is several times larger. The factor varies for the carbon coming from the different fractions collected, being 10 for the carbon from the tobacco tar, 6 for the carbon dioxide fraction, and 4 for the carbon monoxide fraction. This fact, which should be considered along with the high adsorbability of C^{14}, constitutes a danger for smokers and can be one of the causes of the cancerogenic properties of tobacco smoke. The tobacco tar fraction, richest in C^{14} and containing cancerogenic hydrocarbons, has the greatest potential of synergetic cancerogenic activity. In the proposed mechanism of cancerogenic activity of tobacco smoke, besides the radioactive C^{14}, other radioactive substances adsorbed by the smoke from the air can be involved. This points out the danger of passive smoking, that is, the inhaling of air laden with tobacco smoke, especially in areas where the air is contaminated with other radioactive substances. (Author)

Covello, Lucio and Serra, Carlo.
THE INFLUENCE OF SMOKING ON THE MUSCULAR ACTION POTENTIAL IN CASES OF ARTERIOPATHY. [1962] 24p. 11 refs.
Order from SLA $2.60 63-16949

Trans. of [Giornale Italiano di Chirurgia] 1958, v. 14, no. 8, p. 691-711.
Another trans. is available from K-H $30.00 as K-H 8973-z [1962] 24p.

DESCRIPTORS: *Cigarettes, *Tobacco, *Muscles, *Arteries, *Diseases, Toxicity.

The use of the smoking test on a series of twelve cases of arteriopathy, of which five were of the Raynaud type (two operated on and three not) and seven were cases of chronic obstructive arteriosclerotic arteriopathy (of which three had been operated on) permitted the following observations: (1) in the Raynaud forms and in the cases of arteriopathy not operated on, a perceptible reduction, under the action of smoking, of the active motor units during the maximum voluntary contraction, with a definite worsening of the innervation regimen, already deficient in these subjects; (2) in the Raynaud forms subjected to surgical intervention, an appreciable increase of innervation after smoking which often carries the picture to an almost normal appearance of subinterference; a quite evident increase in the innervation regimen also in the forms of occlusive arteriopathy previously subjected to surgical intervention; (3) finally an analogous increase in the innervation regime with smoking was had in the cases of arteriopathy not operated on, if before smoking they were subjected to pharmacological vasodilation. (Author)

Cuzin, J. L. and others.
THE SPECIFIC ACT OF SMOKING: ANALYSIS OF A FEW PARAMETERS ON A LIMITED GROUP OF SMOKERS. [1962] 17p.
Order from SLA $1.60 63-16968

Trans. of mono. Internat[ional] Sci[entific] Tob[acco] Cong[ress] (no. 2) Brussels [8-15 June] 58. [Proceedings] p. 521-535.
Another trans. is available from K-H $21.25 as K-H-11455-a [1962] 17p.

DESCRIPTORS: *Tobacco, Cigarettes, Smokes, Statistical analysis.

A presentation is made of the distribution of 5 parameters (puff length, interval and volume, maximal temperature reached) within a series of records of the smoking behaviour of 83 French "Gauloise" smokers. An extension to the flow wave and time control in smoking machines is given. (Author)

Czochra-Lysanowicz [Zofia], Gorski, Michal, and Kedra, Mieczyslaw.
THE INFLUENCE OF NICOTINE AND CAFFEINE ON THE DEVELOPMENT OF ATHEROSIS BY RABBITS. [1962] [3]p.
Order from K-H $3.75 K-H-10809a

Trans. of Pol[skie] Arch[iwum] Med[ycyny Wewnet-[rznej] 1960, v. 30 [no. 7] p. 1004-1005.
Another trans. is available from SLA $1.10 as 63-16940 [1963] 3p.

DESCRIPTORS: Drugs, *Nicotine, *Caffeine, Arteries, *Ulcers, Toxicity, Rabbits.

Czocnra-Lysanowicz, Zofia, Gorski, Michal, and Kedra, Mieczyslaw.
THE INFLUENCE OF NICOTINE AND CAFFEINE ON THE DEVELOPMENT OF ATHEROSIS BY RABBITS. [1963] 3p.
Order from SLA $1.10 63-16940

Trans. of Pol[skie] Arch[iwum] Med[ycyny] Wewnet-[rznej] 1960, v. 30, no. 7, p. 1004-1005.

DESCRIPTORS: *Nicotine, *Caffeine, Diseases, *Arteries, *Cholesterol, Blood circulation.

Danysz, A[ndres] and Dmochowski, J[ohn].
THE EFFECT OF TOBACCO SMOKE INTOXICATION ON PHYSICAL EFFICIENCY. [1962] 8p. (figs. refs. omitted).
Order from SLA $1.10 63-16950

Trans. of Pat[ologia] Polska, 1958, v. 9, no. 3, p. 215-220.
Another trans. is available from K-H $10.00 as K-H 9002 [1962] 8p.

DESCRIPTORS: *Tobacco, *Smokes, Cigarettes, *Physical fitness, Toxicity.

The physical efficiency of the white rats was decreased as a result of tobacco smoke intoxication. Severe poisoning impairs this efficiency; considerable but of short duration. The effect of chronic poisoning is not as severe but it is of longer duration. The results of these investigations on cats and frogs indicate that probably the mechanism of this action is chiefly peripheral. The muscles of animals poisoned with tobacco smoke did not exhibit the ability to tetanic contraction under indirect as well as direct stimulation. Since rather large doses (1 cigarette per kilogram of weight) were used and because of the high concentrations (the animal inhaled smoke only for 2-3 minutes), it could have been supposed that the toxic effects are caused by an action not proper to tobacco smoke and also the lack of oxygen in the system. However, neither severe suffocation nor poisoning with heavy clouds of smoke from burned cellulose did not cause a greater impairment of muscular ability to tetanic contraction. The addition of methylene blue also did not decrease the miolitic effect of the smoke. From this it follows that anoxemia is not the main cause in tobacco smoke intoxication of the impairement of muscular activity. (Author)

Danysz, Andrew and Dmochowski, John.
STUDIES ON THE EFFECT OF TOBACCO SMOKE COMPONENTS ON STRIATED MUSCLE FUNCTION. [1962] 21p. 54 refs.
Order from SLA $2.60 63-16951

Trans. of Patologia Polska, 1959, v. 10, no. 1, p. 1-11.
Another trans. is available from K-H $25.00 as K-H 9458 [1962] 20p.

DESCRIPTORS: *Tobacco, *Smokes, *Muscles, Physiology, Musculoskeletal system, Cigarettes.

Deelman, H. T.
CLINICAL LESSONS: VIEWS ON CARCINOMA OF THE LUNG. [1962] 11p.
Order from SLA $1.60 63-16953

Trans. of Nederlands Tijdschrift voor Geneeskunde, 1952, v. 96, 2 Aug, p. 1850-1855.
Another trans. is available from K-H $13.75 as K-H 8003-a [1962] 11p.

DESCRIPTORS: *Cancer, *Lungs, Cancer research, Etiology, Influenza viruses, Cigarettes.

Dietrich, G. and Buchner, M.
CONTRIBUTION TO THE VITAMIN-C METABOLISM OF SMOKERS. [1963] 4p. 4 refs.
Order from SLA $1.10 63-16956

Trans. of Deutsche Gesundheitswesen (East Germany) 1960, v. 15, no. 51, p. 2494-2495.

DESCRIPTORS: *Cigarettes, *Smokes, Tobacco, *Metabolism, *Ascorbic acid, Vitamins, *Deficiency diseases, Toxicity.

It was shown that smokers exhibit a vitamin deficiency compared to non-smokers.

Druckrey, H., Schmähl, D., and Beuthner, H.
COMPARATIVE TEST OF TOBACCO-SMOKE CONDENSATES, BENZOPYRENE AND TOBACCO EXTRACT FOR CARCINOGENIC ACTION IN RATS. [1962] 6p. 5 refs.
Order from SLA $1.10 63-16964

Trans. of [die] Naturwissenschaften (West Germany) 1960, v. 47, no. 24, p. 605-606.
Another trans. is available from K-H $7.50 as K-H 10843-a [1962].

DESCRIPTORS: *Tobacco, Smokes, *Benzopyrenes, *Cancer, Rats, Carcinogenic agents, Cigarettes.

Dungal, Niels.
CAN SMOKED FOODS BE CANCEROGENIC? [1962] 5p.
Order from SLA $1.10 63-16901

Trans. of [der] Krebsarzt (Austria) 1959, v. 14, no. 1, p. 22-24.
Another trans. is available from K-H $6.25 as K-H 9353-a [1962] 5p.

DESCRIPTORS: Smokes, *Food, Cancer, *Carcinogenic agents.

Tumor formations were observed at animal tests, after feeding smoked meat to rats. Furthermore the contents of aromatic carbohydrogens was tested in the smoked foods, thereby considerable amounts of carbohydrogens, which by themselves are not cancerogenic, but which might possible be cocarcinogen as well as considerable amounts of highly cancerogenic benzpyrene, were ascertained. Whilst smoked foods may not have to be regarded as the main cause for the gastric cancer, which is particularly frequent amongst the male population of Iceland, particular stress has to be put on a warning against too long smoking of meats. (Author)

Ejrup, B.
PERISPHERAL ARTERIAL CIRCULATION DISORDERS: DIAGNOSIS AND TREATMENT. [1962] 27p. [refs. omitted].
Order from SLA $2.60 63-16684

Trans. of Svenska Läkartidningen, 1948, v. 45 [no. 1] p. 1-17.
Another trans. is available from K-H $33.75 as K-H 8003-b, 1962, 27p.

DESCRIPTORS: *Arteries, *Circulatory system, Diseases, Diagnosis, Therapy, Cigarettes.

Ejrup, B.
POLYCLINICS FOR BREAKING THE SMOKING HABIT. [1962] 20p. 19 refs.
Order from SLA $1.60 63-16681

Trans. of Svenska Läkartidningen, 1959, v. 56, 3 July, p. 1899-1911.
Another trans. is available from K-H $25.00 as K-H 9477-a, 1962, 20p.

DESCRIPTORS: *Smokes, Tobacco, Toxicity, Therapy, *Addiction, *Nicotine, Cigarettes.

Feiks, F. K.
ANAMNESIS OF THE BRONCHOGENIC CARCINOMA PATIENT. [1962] 23p. 7 refs.
Order from SLA $2.60 63-16677

Trans. of der Krebsarzt (Austria) 1957, v. 12, no. 4, p. 208-219.
Another trans. is available from K-H $28.75 as K-H 8003-c, 1962, 23p.

DESCRIPTORS: *Neoplasms, *Bronchiectasis, *Lungs, *Cancer.

Feofilov, G. L.
DATA ON THE PATHOGENESIS OF CANCER OF THE LUNG. [1962] 10p. (figs. omitted) 18 refs.
Order from OTS or SLA $1.10 63-16897

Trans. of Khirurgiya (USSR) 1958, v. 34, no. 3, p. 66-71.
Another trans. is available from K-H $12.50 as K-H 8921-a, 1962, 10p.

DESCRIPTORS: *Lungs, Neoplasms, *Cancer, Diseases, Tissues, (Biology).

Figari, Antelio.
BRONCHOPULMONARY CARCINOMA (OBSERVATIONS ON 235 CASES). [1962] 34p. (figs. omitted) 61 refs.
Order from SLA $3.60 63-16893

Trans. of Bollettino di Oncologia (Italy) 1957, v. 31, no. 5, p. 649-674.
Another trans. is available from K-H $42.50 as K-H-8664, 1962, 34p.

DESCRIPTORS: *Cancer, *Lungs, *Bronchiectasis, Cigarettes, Tobacco.

Fingerland, A.
SMOKING AND LUNG CANCER. [1962] 17p. 15 refs.
Order from SLA $1.60 63-16666

Trans. of Rozhl[edy] v Tuberk[olose a v Nemocech Plicnich] (Czechoslovakia) 1960, v. 20, no. 6, p. 482-488.
Another trans. is available from K-H $21.25 as K-H 10501, 1962, 17p.

DESCRIPTORS: *Smokes, *Tobacco, *Neoplasms, *Lungs, *Cancer, Cigarettes.

The following statements are justified by studies to date. The weight of evidence at present implicates smoking as the principal etiological factor in the increased incidence of lung cancer. Cigarette smoking is particularly associated with an increased chance of developing lung cancer. Stopping cigarette smoking is beneficial, even after long previous exposure. No method of treating tobacco or filtering the smoke has been demonstrated to date as effective in materially reducing or eliminating the hazard of lung cancer. The nonsmoker has a lower incidence of lung cancer in all controlled studies, whether analyzed in terms of rural areas, urban regions, occupation in industry, or sex. Persons who have never smoked cigarettes, cigars, or pipes, have the best chance of escaping lung cancer. Until the use of tobacco can be made safe, the individual person's risk of lung cancer can be reduced best by the elimination of smoking. (Author)

Fischer, Bernhard, J.
EXPERIMENTALLY PRODUCED ATYPICAL EPITHELIAL GROWTHS AND FORMATION OF MALIGNANT TUMORS. [1962] 22p. (tables omitted) 18 refs.
Order from SLA $2.60 63-16667

Trans. of Münchener Medizinische Wochenschrift (Germany) 1906, v. 53, no. 42, p. 2041-2047.
Another trans. is available from K-H $27.50 as K-H 9271, 1962, 22p.

DESCRIPTORS: Neoplasms, Growth, *Cancer, *Epithleum, *Carcinogenic agents.

Friedel, Wolfgang.
ON THE INFLUENCE OF AGE, SEX, BODY WEIGHT AND SIZE, NICOTINE CONSUMPTION AND TERM OF MENSTRUAL CYCLE ON FLUCTUATIONS IN BLOOD PRESSURE IN CHANGES OF POSITION. [1962] 29p. 18 refs.
Order from SLA $2.60 63-16670

Trans. of das Deutsch[e] Gesundh[eitswesen] (East Germany) 1960 v. 15 [no. 1] p. 59-69.
Another trans. is available from K-H $32.50 as K-H 10281-c, 1962, 26p.

DESCRIPTORS: *Women, Sex, Body weight, *Nicotine, Consumption, *Gynecology, *Blood pressure, Aging (Physiology), Cigarettes.

On the basis of 1268 examinations of healthy blood donors the relationship between blood pressure and body position, body weight, height, sex, in the course of the menstrual cycle, and for smokers and nonsmokers was studied. It is shown that blood pressure almost always rises in a change from the vertical to the horizontal position. The value for the pressure increase in this simple position-changing test appears to be a good criterion for the determination of the functional capacity of the heart muscle. The observation of the amplitude change in the change of body position is also of value. It shows a clear sexual dualism wherein a strong tendency to amplitude fluctuation is noticed in men. The significance of these findings for the occurrence of arteriosclerosis is discussed. A significant influence of the menstrual cycle and pregnancy on the results of the position-changing tests was observed. A significant influence was also noted for body weight and nicotine comsumption in both sexes. (Author)

Gläser, A. and Trimpe, H.
COMPARATIVE AUTOPSY STATISTICS, 1900-54. [1962] [25]p. 37 refs.
Order from SLA $2.60 63-16882

Trans. of Archiv fur Geschwulstforschung (East Germany) 1959, v. 14, no. 4, p. 368-381.
Another trans. is available from K-H $28.75 as K-H 9668-b [1962] 23p.

DESCRIPTORS: *Vital statistics, Cancer research, *Cancer.

Grosse, H.
IS THE INCREASE OF LUNG CANCER COMPENSATED BY A DECREASE OF OTHER FORMS OF TUMOR? [1962] 7p. 30 refs.
Order from SLA $1.10 63-16662

Trans. of Zeitschrift fllr die Gesamte Innere Medizin und ihre Grenzgebiete (East Germany) 1957, v. 12, no. 3, p. 131-134.
Another trans. is available from K-H $16.25 as K-H 6713-a [1962] 13p.

DESCRIPTORS: *Cancer, *Lungs, Tumors, Vital statistics.

It is not proved whether the increase of lung cancer, which assumes a more and more dangerous aspect, involved persons who would not have died of cancer if they had not been exposed to tobacco smoke and polluted industrial air. On the contrary, only those men seem to have developed lung cancer who under conditions as prevailing formerly would have contracted another form of organic cancer. (Author)

Grosse, Hans.
ONE HUNDRED YEARS OF LUNG CANCER STATISTICS OF THE DRESDEN-FRIEDRICHSTADT PATHOLOGICAL INSTITUTE. [1963] 34p. 125 refs.
Order from SLA $3.60 63-16661

Trans. of Archiv für Geschwulstforschung (East Germany) 1953, v. 5, no. 4, p. 318-334.
Another trans. is available from K-H $42.50 as K-H-6713-b [1962] 34p.

DESCRIPTORS: Vital statistics, *Lungs, *Cancer.

Guerin, M.
PULMONARY TUMORS AND BUCCAL CANCER IN RATS SUBJECTED TO INHALATION OF CIGARETTE SMOKE. [1962] 23p. (figs. omitted) 32 refs.
Order from SLA $2.60 63-16698

Trans. of Ass[ociation] Fr[ançaise pour l'Étude du] Cancer. [Bulletin] 1959, v. 46, Apr/June, p. 295-309.
Another trans. is available from K-H $30.00 as K-H 9728 [1962] 24p.

DESCRIPTORS: *Tumors, Lungs, *Cancer, Mouth, Rats, *Cigarettes, Smokes.

Gusman, S. M.
BALLISTOCARDIOGRAPHIC CHANGES IN THE CLINICALLY HEALTHY AFTER PHYSICAL EXERCISE AND SMOKING. [1962] 13p. 15 refs.
Order from OTS or SLA $1.60 63-16132

Trans. of Ter[apevticheskii] Ark[hiv] (USSR) 1959, v. 31, no. 1, p. 46-52.
Another trans. is available from K-H $16.25 as K-H 2820 [1962] 13p.

DESCRIPTORS: *Ballistocardiography, *Exercise, Cigarettes, *Smokes, Tobacco.

Gyurech-Vago, E. and Scherrer, M.
CORRELATION BETWEEN CHRONIC BRONCHITIS AND BRONCHIAL CARCINOMA. [1962] 19p. 41 refs.
Order from SLA $1.60 63-16675

Trans. of Schweizerische Medizinische Wochenschrift, 1958, v. 88, no. 45, p. 1132-1136.
Another trans. is available from K-H $23.75 as K-H 8973-b [1962] 19p.

DESCRIPTORS: Infections, Lungs, *Respiratory diseases, *Cancer, Etiology.

Kiktenko, V. S.
ON THE NATURAL OCCURRENCE OF LEPTOSPIROSIS FOCI (O Prirodnoi Ochangovosti Leptospirozov). 17 May 63, 14p. 21 refs. Trans. V-1830.
Order from OTS or SLA $1.60 63-19463

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1962, v. 33, no. 12, p. 49-54.

DESCRIPTORS: *Spirochaeta, *Rodents, *Zoonosis, Communicable diseases, *Diseases vectors, Epidemiology.

Natural foci leptospirosis diseases of rodents are referred to a group of nontransmissive infections. Transmission of leptospirosis infection from rodent to the other occurs, basically, by the sexual route. Infection of rodents through the infected feed and water is of secondary importance. (Author)

Koch, O.
PATHOLOGICAL ANATOMY OF LUNG CANCER. [1962] 27p. (figs. omitted) 8 refs.
Order from SLA $2.60 63-16688

Trans. of Deutsche Gesellschaft für Innere Medizin. [Verhandlungen] (West Germany) 1951, v. 57, p. 285-304.
Another trans. is available from K-H $33.75 as K-H 9915-a [1962] 27p.

DESCRIPTORS: *Cancer, *Lungs, Anatomy, Pathology, Morphology.

Miksic, J.
SOME CONSIDERATIONS ON THE EFFECT OF NICOTINE ON THE HUMAN ORGANISM. [1962] 9p.
Order from K-H $11.25 K-H 12539 g

Trans. of Acta Med[ica] Iugosl[avica] 1961, v. 15, p. 470-476.

DESCRIPTORS: *Nicotine, Physiology.

Romeo, V. and Ferri, L.
CONSUMPTION OF TOBACCOS AND MORTALITY FROM MALIGNANT TUMORS OF THE RESPIRATORY APPARATUS IN ITALY. [1962] 16p.
Order from K-H $20.00 K-H 5998a

Trans. of Istituto Carlo Forlanini. Annali (Italy) 1956, v. 16, no. 2, p. 233-243.

DESCRIPTORS: Italy, Diseases, *Respiratory system, *Neoplasms, *Cancer, Vital statistics, *Tobacco, Consumption.

Sola, J. Espejo.
CARDIOLOGY SINO-AURICULAR BLOCKING. [1962] 10p. 10 refs.
Order from SLA $1.10 63-16680

Trans. of Semana Médica (Argentina) 1936, v. 43 [no. 52] p. 1883-1887.
Another trans. is available from K-H $12.50 as K-H-6960 [1962] 10p.

DESCRIPTORS: Heart, Stimulation *Vagus nerve, Nicotine, Cigarettes.

Solti, F., Peter, A. and others
INVESTIGATION OF THE EFFECT OF NICOTINE ON CEREBRAL BLOODFLOW AND VENOUS PRESSURE. [1962] 7p.
Order from K-H $8.75 K-H 12455

Trans. of Kiserletes Orvostudomany (Hungary) 1962, v. 14, p. 269-272.

DESCRIPTORS: *Blood pressure, *Blood circulation, Cardiovascular system, *Cerebral cortex, *Nicotine.

Pharmacology and Toxicology

Ahn, Bertil von.
AN ELECTROCARDIOGRAPHIC INVESTIGATION OF THE EFFECT OF TOBACCO SMOKE ON THE HEART IN DIFFERENT DEGREES OF SMOKERS. I. HABITUAL SMOKERS. [1963] 39p. 29 refs.
Order from SLA $3.60 63-16579

Trans. of Svenska Läkartidningen, 1946, v. 43, 13 Dec, p. 3109-3136.

DESCRIPTORS: *Electrocardiography, *Tobacco, Smokes, Heart, Toxicity.

The author carried out an investigation of the effect of tobacco smoke on the EKG in 37 persons of different ages and occupations who had been smoking habitually for many years and were allowed to do chain smoking. Thirty of them had sound hearts and 7 had heart disease. Special interest was devoted to the EKG, but the author reports also on the changes of blood pressure and pulse that were observed during the chain smoking. The resting EKG was taken before and also after the chain smoking. The working EKG was taken before and after the smoking. (Author)

Aleksandrov, Kr.
THE ARSENIC CONTENT OF BULGARIAN CIGARETTES. [1963] 5p. 6 refs.
Order from SLA $1.10 63-16916

Trans. of Suvr[emenna] Med[itsina] (Bulgaria) 1961, v. 12, no. 2, p. 105-108.

DESCRIPTORS: *Arsenic, *Cigarettes, *Tobacco, *Smokes, Chemical analysis, Toxicity, Etiology, *Cancer, Lungs, Bulgaria.

The arsenic content of Bulgarian cigarette brands is low, a circumstance which is both favorable and desirable from the standpoint of cancer induced by tobacco. (Author)

Arutyunyan, G. S. and Mashkovskii, M. D.
PHARMACOLOGICAL STUDY OF N-OXIDES OF NICOTINE. [1962] 11p. 5 refs.
Order from OTS or SLA $1.60 63-16919

Trans. of #Farmakologiya i Toksikologiya (USSR) 1961, v. 24 [no. 5] p. 534-540.
Other translations are available from K-H $13.75 as K-H 11679-b [1962] 11p. and from OTS or SLA $8.60 in 62-24016, JPRS-13504, 18 Apr 62 [94]p.

DESCRIPTORS: Pharmacology, *Nicotine, *Oxides, Toxicity.

Nicotine Pl-N-oxide and Py-N-oxide preserve the chief pharmacological properties of nicotine, but they are considerably less active and less toxic. Nicotine Pl, Py-N, N-dioxide is considerably less active and less toxic in parenteral administration than either N-monoxides. Even in large doses it does not cause changes in the activity of the organism characteristic of nicotine. In internal administration, the toxicity of Pl, Py-N, N-dioxide is considerably higher than in subcutaneous or intravenous injection and the toxicity of Pl-N oxide is higher than in subcutaneous injection; however, even when administered subcutaneously, the monoxides and dioxide are considerably less toxic than nicotine. Nicotine N-N dioxide increased diuresis in rats. (Author)

Balik, J., Pavlova, D. and Urbanova, S.
THE INFLUENCE OF NICOTINE UPON THE TEAR EXCRETION OF SMOKERS. [1962] 5p.
Order from K-H $6.25 K-H 9298-a

Trans. of Cas[opis] Lek[aru] Cesk[ych] (Czechoslovakia) 1958, v. 97, p. 1553-1555.
Another trans. is available from SLA $1.10 as 63-16925 [1963] 7p.

DESCRIPTORS: Excretion, *Eye, *Nicotine, *Cigarettes, Tobacco, Toxicity.

Benzi, G.
A FURTHER CONTRIBUTION TO THE PHARMACOLOGICAL STUDY OF THE ISOLATED ODDI'S SPHINCTER. [1962] 5p. 1 ref.
Order from SLA $1.10 63-16930

Trans. of [Società Italiana di Biologia Sperimentale. Bollettino] 1960, v. 36, no. 14, p. 727-729.
Another trans. is available from K-H $6.25 as K-H 10764-a [1962].

DESCRIPTORS: Drugs, Ducts, Pancreas, Liver, *Acetylcholines, *Epinephrine, Autonomic agents, *Gallbladder.

Buffoni, F. and Giotti, A.
THE ACTION OF NICOTINE ON THE PHOSPHORYLASTIC ACTIVITY OF THE ATRIA OF THE GUINEA PIG. [1963] 5p. 8 refs.
Order from SLA $1.10 63-16587

Trans. of Soc[ietà] Ital[iana di] Biol[ogia] Sper[imentale]. Boll[ettino] 1961, v. 37, p. 675-678.
Another trans. is available from K-H $6.25 as K-H-11548-a [1962] 5p.

DESCRIPTORS: *Drugs, *Nicotine, *Phosphorylation, *Cardiac muscle, Heart, Laboratory animals.

Carafa, V., Filadoro, F., and Renzini, G.
CONTRIBUTION TO A STUDY OF THE SENSITIVITY OF BACTERIUM PYOCYANEUM TO VARIOUS ANTIBIOTICS (POLYMYXIN, NEOMYCIN, VANCOMYCIN, VIOMYCIN, RISTOCETIN, KANAMYCIN, COLISTIN, STREPTOMYCIN) (Contributo allo Studio della Sensibilità del "Bacterium Pyocianeum" a Vari Antibiotici (Polimixina, Neomicina, Vancomicina, Viomicina, Ristocetina, Kanamicina, Colistina, Streptomicina)). [1963] 21p. 104 refs.
Order from SLA $2.60 63-16503

Trans. of Gazz[etta] Med[ica] Ital[iana] 1961, v. 120 no. 9, p. 321-328.

DESCRIPTORS: *Sensitivity, *Pseudomonadaceae, *Antibiotics, Biological assay, Polymyxins, Neomycins, Colimycin, Streptomycins, Drugs.

Cluzel, R., Michel, J. and others.
COMPARATIVE STUDY OF THE BACTERICIDAL EFFECT OF ANTIBIOTIC COMBINATIONS OF COLISTIN BASE ON ENTEROBACTERIACEAE AND PSEUDOMONADACEAE (Etude Comparée de l'Effet Bactéricide des Associations d'Antibiotiques à Base de Colistine sur les Entérobactériacées et Pseudomonadacées). [1963] 7p. 16 refs.
Order from SLA $1.10 63-16509

Trans. of Inst[itut] Pasteur [Paris]. Ann[ales] (France) 1961, v. 101, no. 2, p. 203-210.

DESCRIPTORS: *Antibiotics, Bactericides, Drugs, *Colimycin, *Enterobacteriaceae, *Pseudomonadaceae.

Diamant, Herman.
ANTIHISTAMINICS IN MOTION SICKNESS, tr. by E. R. Hope. June 63, 8p. 34 refs. DSIS T 2 S.
Order from NRCC NRCC C-4475

Trans. of Nordisk Medicin (Sweden) 1952, v. 48, no. 39, p. 1321-1324.

DESCRIPTORS: *Motion sickness, *Antihistaminics, *Ear.

Dinter, Z.
ACTIVE IMMUNITY AGAINST BOTULINUS C. TOXIN. [1963] 8p. (figs. omitted) 8 refs.
Order from SLA $1.10 63-16463

Trans. of Nord[isk] Vet[erinär]med[icin] (Denmark) 1955, v. 7, p. 1056-1062.
Another trans. is available from SLA as 58-363.

DESCRIPTORS: *Immunity, *Toxins and antitoxins, *Botulism toxoid, Vaccines, Biological products, Drugs.

Serum antitoxin levels of guinea pigs vaccinated with a toxoid adsorbate have been followed. The toxoid adsorbate have been followed. The toxoid adsorbate used was of the type produced in this institute for the vaccination of mink. After one dose, a high antitoxin titer was produced in 5 to 7 weeks and remained unaltered at least to the 8th month p.v. If the immune reaction of mink is similar, it follows that vaccinated mink will be protected against botulism by a high antitoxin level for a similar period. (Author)

Dullaghan, Matthew Edward and Hochstadt, Harold Robert.
PROCESS FOR THE PREPARATION OF HAMAMELIS VIRGINIANA CONCENTRATES. [1962] 8p. 3 refs.
Order from OTS or SLA $1.10 63-16886

Trans. of German patent 1,058,671 H 28418 IVa/23a, by Humphreys Medicine Co., Inc. (U.S.A.) cl. 23a 6, internat. cl. C 11 b, appl. 25 Oct 56, announcement and issuance pub. appl. 4 June 59 (priority: U. S. A. 28 Oct 55).
Another trans. is available from K-H $10.00 as K-H-11006a, 1962.

DESCRIPTORS: Drugs, Plants (Botany), Preparation, Absorption, *Charcoal, *Toilet articles.

The invention concerns a process for the preparation of Hamamelis Virginiana concentrates characterized by the fact that an aqueous or alcohol-free aqueous-alcoholic extract, respectively, is mixed with activated charcoal, that the charged coal is separated from the solution and that the adsorbed extractive materials are eluted from the charcoal by means of alcohol and dilute alcohol, respectively, of 50% and above. Activated charcoal is kept in contact with the aqueous Hamamelis Virginiana extract for a minimum of 5 minutes followed by the separation of the charged charcoal from the solution and by drying, if desired. (Author)

Egashira, S.
AMÉLIORATION DE LA MÉTHODE DE SYNTHÈSE DE LA NINHYDRINE (Improvement of the Synthesis of Ninhydrine). 7p. 2 refs. FX-193.
Order from OTS, ETC or CNRS $0.80 62-26516

Trans. in French of [Nihon] Kagaku Zasshi (Japan) 1954, v. 75, p. 308.

DESCRIPTORS: *Colorimetric analysis, *Proteins.

Ejrup, B.
FOLLOW-UP OF A MATERIAL OF DIFFICULTLY TREATED SMOKERS. [1962] 13p. 4 refs.
Order from SLA $1.60 63-16683

Trans. of Svenska Läkartidningen, 1959, v. 56, no. 33, p. 2254-2262.
Another trans. is available from K-H $17.25 as K-H 9513, 1962, 13p.

DESCRIPTORS: *Cigarettes, Smokes, Tobacco, Nicotine, *Addiction, Drugs.

Euler, U. von.
PHARMACOLOGY OF THE CORONARY VESSELS. [1962] 9p.
Order from SLA $1.10 63-16676

Trans. of Nordisk Medicinsk Tidskrift (Finland) 1934, v. 7, p. 744-747.
Another trans. is available from K-H $11.25 as K-H 6975-a, 1962, 9p.

DESCRIPTORS: *Heart, Blood vessels, *Embolism, Pathology, *Blood circulation, Drugs, *Vasoactive agents.

Euler, Ulf von.
A SURVEY OF THE TOXICOLOGY OF THE TOBACCO HABIT AND SOME QUESTIONS RELATED THERETO. [1962] 22p. (refs. omitted).
Order from SLA $27.50 63-16678

Trans. of Nordisk Medicinsk Tidskrift (Finland) 1931, v. 3, 5 Sep, p. 561-567.
Another trans. is available from K-H $27.50 as K-H 6918-e, 1962, 22p.

DESCRIPTORS: *Tobacco, Toxicity, Medical research, Smokes, Cigarettes.

Forsgren, Erik.
NICOTINE POISONING AND LITERARY ANGUISH. [1962] 7p.
Order from SLA $1.10 63-16668

Trans. of Svenska Läkartidningen, 1959, v. 56, p. 983-986.
Another trans. is available from K-H $8.75 as K-H 9372-d [1962] 7p.

DESCRIPTORS: *Nicotine, *Poisoning, Toxicity.

Francillon, J., Chambon, P., and Ruitton, P.
ANTIBIOTICS AND SURGERY OF THE COLON: IMPORTANCE OF "NON-SYSTEMIC" ANTIBIOTICS (Antibiotiques et Chirurgie du Colon: Intérét des Antibiotiques "Non Systémiques". [1963] 10p. 32 refs.
Order from SLA $1.10 63-18023

Trans. of [1a] Presse Médicale (France) 1962, v. 70, p. 765-766.

DESCRIPTORS: *Antibiotics, *Surgery, *Intestines, *Neomycins, Absorption (Physiology), Drugs.

With the appearance of antibiotics, the difficult problem of preoperative sterilization of the intestine in surgery of the colon appears to have been solved. Bitter disappointments followed this enthusiasm. However, later in connection with the constantly broadened scope of antibiotherapy it is possible to resort successfully "non-systemic" antibiotics whose principle characteristic is that of not being absorbed by the intestine and of persisting at an effective level during the entire period of postoperative digestive adynamia. These antibiotics are found in the chemical groups of antibiotics of heterosidic and polypeptide nature. It appears from the works analyzed that these antibiotics are often used in combination with a partner which almost always proves to be neomycin. (Author)

Giusti, C., Nicoletti, G., and Guerini, C.
THE BEHAVIOR OF VARIOUS SPIROGRAPHIC INDICES IN NORMAL CONDITIONS UNDER THE INFLUENCE OF NICOTINE. [1962] 13p. 14 refs.
Order from SLA $1.60 63-16691

Trans. of Giornale di Clinica Medica (Italy) 1960, v. 41, p. 76-84.
Another trans. is available from K-H $16.25 as K-H 10481c [1962] 13p.

DESCRIPTORS: *Nicotine, *Cigarettes, Tobacco, *Smokes, Toxicity, Respiration, *Oxygen consumption.

A study was made of the behavior of some spirographic indices in a group of normal subjects (smokers and non-smokers) after i.m. (intramuscular) administration of 1 mg. of nicotine. The most frequently encountered modifications were those which effected the ventilation/minute, probably due to a stimulation of the respiratory center. Only in a few cases was it possible to show an increase or a decrease of the bronchial muscular tone, while there was no evidence of a curare-like effect on the auxiliary respiratory muscles. (Author)

Henschler, D.
PROTECTIVE EFFECT OF PRETREATMENT WITH LOW CONCENTRATIONS OF GAS AGAINST LETHAL LUNG EDEMA BY IRRITATING GAS (Schutzwirkung Einer Vorbehandlung mit Geringen Geskonzentrationen Gegeu Tödliche Reizgas-Lungenodeme). [1963] 2p.
Order from SLA $1.10 63-16905

Trans. of Naunyn-Schmiedeberg's Arch[iv für] Exp[erimentelle] Pathol[ogie und] Pharmakoi[ogie] (West Germany) 1960, v. 238, p. 66-67.

DESCRIPTORS: *Tolerances (Physiology), *Lungs, *Edema, *Poisonous gases, Inhibition.

Holmstedt, B. R.
PROCESS FOR THE PREPARATION OF ANTIHISTAMINE PREPARATIONS. [Feb 61] 9p.
Order from OTS or SLA $1.10 63-16883

Trans. of Swedish patent 168354, cl. 30 h :2/35, int. cl. A 61k, appl. 3711/1955, 18 Apr 55, effective 18 Apr 55, granted 25 June 59, pub. 25 Aug 59. Another trans. is available from K-H $10.00 as K-H-10573-a, Feb 61, 8p.

DESCRIPTORS: *Aerosols, *Cigarettes, *Nicotine, *Antihistaminics, Tobacco, Impregnation.

The invention involves process for the preparation of antihistamine preparations, intended to be converted during combustion into aerosol form, for therapeutic administration, characterized in that a combustible material, suitably free of pharmacologically active substances, is impregnated in finely subdivided form with an antihistamine. The combustible material is impregnated with diphenhydramine, tripelennamine, or promethazine. Tobacco, which, considered practically, is nicotine-free, is impregnated with antihistamines. Dandelion root may also be impregnated with antihistamines. (Author)

Kharkevich, D. A.
GANGLION-BLOCKING ACTIVITY OF CERTAIN NICOTINE DERIVATIVES. [1963] 4p. 3 refs.
Order from OTS or SLA $1.10 63-16654

Trans. of #Farm[akologiya] i Toks[ikologiya] (USSR) 1958, v. 21, no. 6, p. 28-30. Another trans. is available from K-H $5.00 as K-H 9298-c [1962] 4p.

DESCRIPTORS: Autonomic agents, *Nicotine, Toxicity, *Parasympatholytic agents, *Vagus nerve, Ganglia.

Kurosawa, Akio.
ANTIBIOTIC ACTIVITY OF COLISTIN AND OTHER ANTIBIOTICS AGAINST ORAL BACTERIA. [1963] 8p. 3 refs.
Order from SLA $1.10 63-16431

Trans. of Shika Gakuho (Japan) 1960, v. 60, p. 91-93.

DESCRIPTORS: *Antibiotics, *Colimycin, Drugs, *Bacteria, *Mouth, Penicillins, Streptomycins, Chloramphenicol, Tetracyclines.

Colistin had potent effects in inhibition of the growth of gram-negative bacteria, while its effect against gram-positive bacteria was weak. However, colistin when combined with such antibiotics as penicillin, streptomycin, chloroamphenicol, and tetracycline, exhibited synergic effects against oral aerobic bacteria in saliva under certain conditions. Since penicillin, streptomycin, chloroamphenicol, and tetracycline showed marked growth inhibition of bacteria by themselves above certain concentrations, the synergic effects were not clearly seen. And those antibiotics did not exhibit the synergic effect with colistin below certain concentrations. It may be generally said that when those antibiotics co-existed with colistin at concentrations at which they show some growth inhibition effects by themselves, the synergism was pretty clearly observable, and the higher concentration of colistin was more favorable in such cases. These results indicated that the synergic effect of colistin with penicillin, streptomycin, chloroamphenicol, and tetracycline against oral bacteria in saliva was significant, and may be utilized for the treatment of illness caused by these bacteria. (Author)

Lajudie, P. de.
APPLICATION OF DIFFUSION METHODS TO COLISTIN (Application à la Colistine des Méthodes de Diffusion). [1963] 6p. 13 refs.
Order from SLA $1.10 63-16508

Trans. of Inst[itut] Pasteur [Paris]. Ann[ales] (France) 1961, v. 100, Apr. Suppl, p. 71-76.

DESCRIPTORS: *Colimycin, Biological assay, Antibiotics, Drugs, *Diffusion.

Neplokh, Ya. M.
TOXICOTRAUMATIC NEURITIS OF THE SCIATIC NERVES IN AMINAZINE THERAPY (Toksikotravmaticheskie Nevrity Sedalischnykh Nervov v Svyazi s Lecheniem Aminazom) tr. by Wanda M. Feeley. Aug 61, 6p. (refs. omitted). PSC no. 60-968.
Order from OTS or SLA $1.10 63-19720

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1960, v. 60 [no. 2] p. 238-241.

DESCRIPTORS: Toxicity, *Nerves, *Chlorpromazine, Psychoses, Legs, Tolerances (Physiology), Psychotropic agents.

Reshetov, P. D., Blinov, N. O., and Khokhlov, A. S.
CHROMATOGRAPHIC COMPARISON OF POLYMYCIN WITH CERTAIN STREPTOTHRICIN ANTIBIOTICS. [1963] 8p.
Order from ATS $7.65 ATS-69Q69R

Trans. of #Antibiotiki (USSR) 1963, v. 8, no. 1, p. 104-110.

DESCRIPTORS: *Antibiotics, *Chromatographic analysis, Drugs, *Streptomycins.

Sacco, Tommaso.
MINT IN HISTORY AND IN THERAPEUTICS (MYTHOLOGY, PRAISES AND CRITICISM). [1962]
Order from K-H $36.25 K-H 10880 b

Trans. of Riv[ista] Ital[iana] E[ssenze] P[rofumi] P[iante Officinali], O[lii Vegetali], S[aponi] 1960 [v. 42, no. 5, p. 203-209].

DESCRIPTORS: *Plants (Botany), History, Therapy.

Savchuk, V. I.
THE EFFECT OF AMINAZINE ON DIFFERENT CEREBRAL CENTERS ACCORDING TO THE DATA OBTAINED FROM AN EXPERIMENTAL STUDY (Deistvie Aminazina na Razlichnye Otdely Golovnogomozga po Dannym Eksperimental'nogo Issledovaniya) tr. by Wanda M. Feeley. June 61, 20p. (refs. omitted). PSC no. 60-692.
Order from OTS or SLA $1.60 63-19722

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1960, v. 60 [no. 2] p. 182-193.

DESCRIPTORS: *Chlorpromazine, Drugs, Psychotropic agents, Brain, *Cerebral cortex, Nervous system, *Autonomic nervous system.

Schmöger, Rolf.
[ANTIBIOTIC THERAPY OF NOURISHMENT DISTURBANCES WITH COLISTIN] (Antibiotische Therapie der Ernährungsstörungen mit Colistin). [1963] 8p. 19 refs.
Order from SLA $1.10 63-16382

Trans. of die Med[izinische] Welt (West Germany) 1961, no. 49, p. 2568-2571.

DESCRIPTORS: Antibiotics, Drugs, *Colimycin, Nutrition, *Deficiency diseases, Intestines.

Almost 2 years experience with the antibiotic Colistin made it possible for us to present a report on 122 disease cases with nourishment disturbances treated. The antibiotic was always excellently tolerated and unfavorable side effects were not observed in any case.

Schönenberg, Hans.
CLINICAL EXPERIENCES WITH THE NEW ANTIBIOTIC COLISTIN (Klinische Erfahrungen mit dem Neuen Antibiotikum Colistin). [1963] 11p. 15 refs.
Order from SLA $1.60 63-16501

Trans. from Deut[sche] Med[izinische] Wochenschr[ift] (West Germany) 1960, v. 85, no. 39, p. 1714-1717.

DESCRIPTORS: Antibiotics, *Colimycin, Drugs, Communicable diseases, Children.

Speranskii, G. N. and Pratusevich, Yu. M.
THE BLOCKADE (PHARMACOLOGICAL EXCLUSION) OF THE RETICULAR FORMATION OF THE BRAIN STEM OF THE INFANT AND ITS ARREST BY LOW TEMPERATURE. [1963] 7p. 14 refs.
Order from OTS or SLA $1.10 63-16458

Trans. of A[kademiya] N[auk] SSSR. D[oklady] 1961, v. 141, no. 6, p. 1518-1521.

DESCRIPTORS: *Hypothermia, *Brain, Drugs, Chlorpromazine, Anesthesia, *CNS depressants, *Autonomic agents, Tranquilizers.

Tomikawa, Ryoji, Urabe, Shinji, and Ohta, Yoshihiro.
THE CLINICAL EFFECT OF COLIMYCIN ON UROGENITAL DISEASES. [1963] 9p. 7 refs.
Order from SLA $1.10 63-16540

Trans. of Hifu to Hinyo (Japan) 1960, v. 22, no. 5, p. 65-67.

DESCRIPTORS: *Colimycin, Antibiotics, Drugs, *Urinary system, *Reproductive system.

Toudoire, Alain.
URINARY ANTISEPTICS AND ANTIBIOTICS IN THE TREATMENT OF INFECTIONS DUE TO COMMON PATHOGENS. (Les Antiseptiques et Antibiotiques Urinaires dans le Traitement des Infections a Germes Banaux). [1963] 7p. (refs. figs. omitted).
Order from SLA $1.10 63-18037

Trans. of la Vie Méd[icale] (France) 1961, v. 42, no. 3, p. 85-92.

DESCRIPTORS: *Germicides, *Antibiotics, *Urinary system, Infections, Therapy, Sulfonamides.

Urinary infections of varying severity and origin occur often and require a logical course of therapy, viz. treatment of the symptoms or complications of the infection as well as that directed at the etiology (e.g. extraction of a calculus, extirpation of a tumor, prostatectomy), without which there could be no hope for recovery. (Author)

Tripod, J.
EXPERIMENTAL ANTAGONISMS AND SYNERGISMS IN THE CENTRAL NERVOUS SYSTEM (Antagonismes et Synergismes Experimentaux au Niveau du Systeme Nerveux Central). July 62, 9p. 100 refs.
Order from SLA $1.10 62-20037

Trans. from mono. International Meeting on the Techniques for the Study of Psychotropic Drugs, Bologna, 26-27 June 60. Acta.

DESCRIPTORS: Drugs, *Psychotropic drugs, *Nervous system, Brain, Spinal cord, *CNS depressants, *CNS stimulants.

Umanskaya, R. M.
THE RESULTS OF CHLORPROMAZINE THERAPY IN PRESENILE PSYCHOSES (O Resul'tatakh Lecheniya Aminazinom Bol'nykh Presenil'nymi Psikhozami) tr. by Wanda M. Feeley. 27 Apr 62, 8p. PSC no. 60-2420.
Order from OTS or SLA $1.10 63-19711

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1960, v. 60, no. 6, p. 758-762.

DESCRIPTORS: *Chlorpromazine, Drugs, *Psychoses, Psychotropic agents, Tranquilizers, *Aging (Physiology).

Urban, Norbert.
THE TREATMENT OF "HOSPITAL DYSPEPSIA" OF INFANTS WITH COLISTIN (Die Behandlung der "Hausdyspepsie" des Säuglings mit Colistin). [1963] 11p. 27 refs.
Order from SLA $1.60 63-16500

Trans. from Deut[sche Med[izinische] Wochenschr[ift] (West Germany) 1960, v. 85, 16 Dec, p. 2242-2245.

DESCRIPTORS: Hospitals, Diseases, *Gastrointestinal system, *Infants, Antibiotics, *Colimycin, Drugs.

Yamagishi, M., and Yoshida, T.
ÉTUDE SUR LA RÉACTION DE LA NINHYDRINE. Ie Rapport. MÉTHODE COLORIMÉTRIQUE QUANTITATIVE POUR LES ACIDES α- Amines (Studies on Ninhydrin. Reaction I. Colorimetric Determination of α-Amino Acids). 8p. 7 refs.
Order from OTS, ETC or CNRS $0.80 62-26927

Trans. in French of Yakugaku Zasshi (Japan) 1953, v. 73, no. 7, p. 675-676.

DESCRIPTORS: *Organic compounds, *Amino acids, Pyridines, Colorimetric analysis, Chromatographic analysis.

Yamagishi, M.
ÉTUDE SUR LA RÉACTION DE LA NINHYDRINE IIe Rapport. PRODUITS INTERMÉDIAIRES DANS LA REACTION DE LA NINHYDRINE (Studies on Ninhydrin Reaction. II. The Intermediates in Ninhydrin Reaction). 10p. (foreign text included) 4 refs.
Order from OTS, ETC or CNRS $0.80 62-26925

Trans. in French of Yakugaku Zasshi (Japan) 1954, v. 74, no. 1, p. 27-29.

DESCRIPTORS: *Organic compounds, *Amino acids, Chemical reaction.

Yamagishi, M.
ETUDE SUR LA REACTION DE LA NINHYDRINE. IIIe Rapport. STRUCTURE DU PRODUIT INTERMEDIAIRE DANS LA REACTION DE LA NINHYDRINE (Studies on Ninhydrin Reaction. III. Structure of the Intermediate in Ninhydrin Reaction). 11p. (foreign text included) 2 refs.
Order from OTS, ETC or CNRS $0.80 62-26926

Trans. in French of Yakugaku Zasshi (Japan) 1954, v. 74, no. 6, p. 599-600.

DESCRIPTORS: *Organic compounds, *Amino acids, *Pyrimidines, Molecular structure, Decomposition.

Yamagishi, M.
ÉTUDE SUR LA RÉACTION DE LA NINHYDRINE. VIe Rapport. RÉACTION DE LA NINHYDRINE AVEC LES AMINES SECONDAIRES (Studies on Ninhydrin Reaction. VI. Ninhydrin Reaction of Secondary Amines). 11p. (foreign text included) 6 refs.
Order from OTS, ETC or CNRS $0.80 62-26923

Trans. in French of Yakugaku Zasshi (Japan) 1954, v. 74, no. 10, p. 1042-1044.

DESCRIPTORS: *Organic compounds, *Amines, Epinephrine, Benzyl radicals, Methyl radicals, Spectrographic data, Absorption.

Yamagishi, M.
ÉTUDE SUR LA RÉACTION DE LA NINHYDRINE. VIIe Rapport. RÉACTION DE LA NINHYDRINE AVEC LES DIAMINES (Studies on Ninhydrin reaction. VII. Ninhydrin Reaction of Diamines). 10p. (foreign text included) 7 refs.
Order from OTS, ETC or CNRS $0.80 62-26922

Trans. in French of Yakugaku Zasshi (Japan) 1954, v. 74, no. 10, p. 1075-1077.

DESCRIPTORS: *Organic compounds, Amines, Amino acids, *Lysines, Spectrographic data, Absorption.

Yamagishi, M.
ÉTUDE SUR LA RÉACTION DE LA NINHYDRINE. Vme Rapport. RÔLE DE L'HYDRINDANTINE etc.... DANS LA RÉACTION DE LA NINHYDRINE (Studies on Ninhydrin Reaction. V. Role of Hydrindantin, etc., in Ninhydrin Reaction). 13p. (foreign text included) 8 refs.
Order from OTS, ETC or CNRS $0.80 62-26924

Trans. in French of Yakugaku Zasshi (Japan) 1954, v. 74, no. 10, p. 1004-1008.

DESCRIPTORS: *Organic compounds, Amines, *Amino acids, Methyl radicals, Pyridines, Chemical reactions.

Yamagishi, M.
ÉTUDE SUR LA RÉACTION DE LA NINHYDRINE. 8 e Rapport. LA RÉACTION DE LA NINHYDRINE AVEC DES COMPOSÉS DU TYPE R1, R2 CH-NH2 ET SES HOMOLOGUES (Studies on Ninhydrin Reaction. VIII. (Ninhydrin Reaction of R1R2CH-NH2 Type Compounds and its Homologs). 11p. (Foreign text included) 5 refs. C 9673.
Order from OTS, ETC or CNRS $0.80 62-26914

Trans. in French of Yakugaku Zasshi (Japan) 1954, v. 74, no. 11, p. 1233-1235.

DESCRIPTORS: *Organic compounds, Amino radicals, Alkyl radicals, Chemical reactions.

Radiobiology

Anchikov, N. N.
THE EFFECT OF ROENTGEN RAYS ON THE DEVELOPMENT OF THE ALLANTOIS OF THE CHICKEN EMBRYO. [1963] 8p. (Eng. refs. omitted) 16 refs.
Order from OTS or SLA $1.10 63-16461

Trans. of A[kadmiya] N[auk] SSSR. D[oklady] 1959, v. 129, no. 4, p. 940-943.

DESCRIPTORS: X-rays, *Radiation effects, *Fetal membranes, *Embryos, Chickens, Anomalies.

Ivanova, E. Ya., Parshina, E. A., and Aleksandrovich, E. I.
THE EFFECTS OF BONE MARROW IMPLANTATIONS ON THE DEVELOPMENT OF RADIATION SICKNESS IN GRAVID ANIMALS AND THEIR PROGENY. [1963] [12]p. 2 refs. FASEB manuscript no. S 307-2.
Order from OTS or SLA $1.60 63-23418

Trans. of Meditsinskaya Radiologiya (USSR) 1962, v. 7, no. 8, p. 52-59.

DESCRIPTORS: *Bone marrow, Transplatation, *Radiation sickness, Animals, Pregnancy, *Radioprotective agents, Inhibition, Radiation effects.

Transplantation of bone marrow to gravid animals that have received a radiation dose of 800 r lightens the course of radiation sickness and preserves the progeny of a proportion of the animals. It can therefore be assumed that bone marrow transplatation can be used in conjunction with other therapeutic measures in the treatment of acute radiation sickness in pregnancy. (Author)

Kiselev, P. N. and Buzini, P. A.
ALTERATIONS IN CELL IMMUNITY IN GASES OF THE CHRONIC ACTION OF IONIZING RADIATION. [1963] [15]p. 13 refs. FASEB manuscript no. S 308-2.
Order from OTS or SLA $1.60 63-23419

Trans. of Meditsinskaya Radiologiya (USSR) 1962, v. 7, no. 8, p. 59-65.
Another trans. is available from OTS or SLA $3.60 in 63-13360, JPRS-16242, 19 Nov 62 [31]p.

DESCRIPTORS: Radiobiology, *Cells (Biology), Ionization, *Radiation effects, Immunity.

Kosyakov, K. S., Libikova, N. I., and Merkina, T. N.
URINARY EXCRETION OF DESOXYCYTIDINE IN ACUTE RADIATION SICKNESS. [1963] [9]p. 1 ref. FASEB manuscript no. S 416-2.
Order from OTS or SLA $1.10 63-23038

Trans. of Meditsinskays Radiologiya (USSR) 1962, v. 7, no. 3, p. 31-35.

DESCRIPTORS: *Urine, *Excretion, Ribose, *Radiation sickness, Cysteine, *Nucleosides, Radiopropective agents.

The suggested method of determining the intensity of the cysteine reaction with a cobalt standard is not inferior to the spectral methods of investigation in defining the desoxyribose content of the urine in conventional units. In rats irradiated in doses of 400, 700 and 800 r, during the first 24 hr after irradiation the excretion of desoxyribose in the urine is clearly increased. After 3 days this increase gives way to a normal concentration of the substance in the urine. When the rats were protected with cystamine, in 13 of the 17 animals irradiation in a dose of 700 r caused no increase in the excretion of desoxyribose in the urine. Irradiation of dogs in a dose of 500 r was accompanied in most cases by an increase in the concentration of desoxyribose in the urine collected in the first 24 hr. The intensity of the cysteine reaction in the urine of healthy persons and patients varies within wide limits. (Author)

Surgery

Goddé, C. and Marchand, J.
HISTOIRE DE LA LARYNGECTOMIE TOTALE. [1963] 11 p.
Order from SLA $1.60 63-16628

Trans. of Hist[oire] de [la] Méd[ecine] (France) 1954, v. 4, p. 47-57.

DESCRIPTORS: History, Surgery, Excision, *Larynx, Otorhinolaryngology.

Tobeck, A.
OPERATIVE TREATMENT OF BILATERAL STENOSING CHRONIC INFLAMMATION OF THE EXTERNAL AUDITORY MEATUS (Operative Behandlung Doppelseitiger Stenosierender Chronischer Geohörgangsentzündungen). [1963] 6p.
Order from SLA $1.10 63-16390

Trans. of Monatsschrift für Ohrenheilkunde und Laryngo-Rhinologie (Austria) 1958, v. 92, no. 4, p. 193-196.

DESCRIPTORS: *Surgery, *Ear, Inflammation, Ootorhinolaryngology, Hearing, *Obstruction (Physiology).

Two cases of stenosing otitis externa of a duration of years were healed by a conservative radical operation in the sense of Winkler's procedure and by formation of a flap of Sourdille for coverage of the antrum. All inflammatory phenomenon disappeared and the hearing which had been markedly decreased before returned to normal. It is suggested to treat also less advanced forces of a resistant diffuse otitis externa in the described form. (Author)

NEMATODICIDE AGENTS. [1963] 3p. 1 ref.
Order from OTS or SLA $1.10 63-16239

Trans. of German patent Specification in support of application Sch 25,854 IVa/45 1, 9 Apr 59, by Schering A.G.

DESCRIPTORS: *Pesticides, *Nematodes, Carbamates, Preparation.

The nematodicide agent is characterized in that it contains the zinc salt of N-methyl-dithiocarbamic acid. (Author)

Buljan, Miljenko.
REPORT ON THE RESULTS OBTAINED BY A NEW METHOD OF FERTILIZATION TRIED OUT IN THE MARINE BAY "MLJETSKOG JEZERA" (Izvjestaj o Rezultatima Eksperimenata Gnojenja Mljetskog Jezera Novim Postupkom). 1960, 30p. 48 refs. FRBC Trans. Series no. 326.
Order from NRCC NRCC C-4471

Trans. of Acta Adriatica (Yugoslavia) 1957, v. 6, no. 6, 46p.

DESCRIPTORS: *Fishes, *Oysters, Fertilizers, Marine biology, Nitrogen, Bacteria, Growth.

Evropeitseva, N. V.
COMPARATIVE ANALYSIS OF THE DESMOLTIFICATION PROCESS AMONG THE YOUNG OF DIFFERENT ECOLOGICAL FORMS OF ATLANTIC SALMON (Sravnitelnyi Analiz Protsessa Desmoltifikatsii u Molodi Raznykh Ekologicheskikh Form Atlanticheskogo Lososia) tr. by G. N. Kulikovskii. 1963 [31]p. (figs. omitted). FRBC Trans. Series no. 431.
Order from NRCC NRCC C-4477

Trans. of Leningrad U. Uchenye Zapiski (USSR) 1962, no. 311, p. 46-73.

DESCRIPTORS: Fishes, Marine biology, *Salmonidae, *Rhythym (Biology), *Adaptation (Physiology), Growth, Environmental tests.

Isakov, Yu. A., ed.
ORGANIZING AND METHODS OF CENSUSING TERRESTRIAL VERTEBRATE FAUNAL RESOURCES. Summaries of reports of Symposium held 4-8 Mar 61. 1963, 104p. PL-480 Int.
Order from OTS $1.00 63-11165

Trans. of mono. Soveshchanie po Voprosam Organizatsii i Metodam Ucheta Resursov Fauny Nazemnykh Pozvonochnykh, Moscow, 1961.

DESCRIPTORS: *Animals, *Counting methods, Distribution, *Population, Birds, Rodents, Mammals, Ungulates, Sheep, Rats, Bats, Geese, Scientific organizations, Geography.

Karzinkin, G. S. and Karpevich, A. F.
TASKS OF HYDROBIOLOGY IN THE AREA OF DEVELOPMENT OF FISH ECONOMY IN BASINS OF THE SOUTHERN SEAS OF THE USSR (Zadachi Gidrobiologii v Oblasti Razvitiya Rybnogo Khozyaistva v Basseinakh Yuzhnykh Morei SSSR). 3 May 63, 32p. 20 refs. Trans. A-1391.
Order from OTS or SLA $3.60 63-19461

Trans. of Voprosy Ikhtiologii (USSR) 1955, no. 3, p. 9-20.

DESCRIPTORS: *Marine biology, *Fishes, Economics, Black Sea, Caspian Sea, *Dams.

Nabokov, V. A.
NEW MEASURES OF MOSQUITO CONTROL. 17 July 63, 20p. JPRS: 20215.
Order from OTS $0.75 63-31311

Trans. of mono. Malen'kie no Opasnye Vragi (Small but Dangerous Enemies) Moscow, 1962 [25]p.

DESCRIPTORS: *Culicidae, *Insect control, *Pest control, Growth, Biological environment, Damage, Insecticides.

Contents:
Breeding places of mosquitoes
The harm done to man and animals by mosquitoes
Protective measures against mosquitoes and their control
New results of mosquito control in the USSR

Rylov, V. M.
CRUSTACEA, VOL. III, NO. 3: FRESHWATER CYCLOPOIDA (Rakoobraznye: Cyclopoida Presnykh Vod) tr. by A. Mercado. 1963, 314p. 292 refs. PL-480 Smi.
Order from OTS $3.25 63-11163

Trans. of Fauna SSSR. [Novaya Seriya] 1948, v. 35 [320p.].

DESCRIPTORS: *Crustacea, Rivers, *Shellfish, Taxonomy, *Marine biology, Aquatic animals.

Vinogradov, M. E. and Voronina, N. M.
THE DISTRIBUTION OF SOME MASS SPECIES OF COPEPODS IN THE INDIAN OCEAN, tr. by Wilvan G. Van Campen. Apr 62 [6]p. 7 refs.
Order from OTS or SLA $1.10 63-15142

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 140, no. 1, p. 219-222.

DESCRIPTORS: Distribution, *Crustacea, Aquatic animals, *Indian Ocean, Marine biology.

This data is based on materials obtained from expeditions of the research vessel Vitiaz in the northern part of the Indian Ocean. The samplings were taken during the winter season of 1959-60. The numbers of each of 30 mass species of copepods of 18 different genera were calculated for 770 samples taken from 166 stations. Both vertical and horizontal distribution of the species are given.

CHEMISTRY

Kopeliovich, I. M.
ANALYTICAL REPRESENTATION OF MULTICOMPONENT SYSTEMS. [1962] 5p.
Order from ATS $6.00 ATS-76P65R

Trans. of #Zh[urnal] Neorgan[icheskoi] Khim[ii] (USSR) 1961, v. 6, no. 12, p. 2724-2726.

DESCRIPTORS: *Chemical analysis, Inorganic compounds.

Ni, L. P.
COMBINATION HYDROCHEMICAL CAUSTIC METHOD FOR PROCESSING HIGH-SILICA BAUXITES TO ALUMINA. [1962] 5p.
Order from ATS $7.65 ATS-03P59R

Trans. of mono. Materialy Soveshchaniya Khim. i Tekhnol. Glinozema, Novosibirsk, 1958 (pub. 1960) p. 149-152.

DESCRIPTORS: *Aluminum compounds, Oxides, *Bauxite, Processing, Dioxides, *Silicon compounds.

Analytical Chemistry

APPLICATION OF TRANSIENT ELECTROCHEMICAL METHODS TO THE CHEMICAL ANALYSIS OF PRODUCTS CONCERNING NUCLEAR CHEMISTRY.
Quarterly rept. no. 7, 1 Jan-31 Mar 62, on Contract 018-60-7 RDB. 1962, 17p. 5 refs.
Order from OTS or SLA $1.60 EURAEC-339

Trans. of a rept. from Brussels Free U. (Belgium) 1962.

DESCRIPTORS: *Electrochemistry, Chemical analysis, *Radiochemistry, *Oxidation-reduction reactions, *Electric currents, Electrolytes, *Ions, *Uranium compounds, Oxides, Complex compounds, Chlorates, Nitrates, Bromides, Chlorides, Sulfates, Thiocyanates,

Various factors affecting the amplitude of the kinetic dismutation current were investigated. These factors include pH in ClO_4^- medium, concentration of UO_2^{+} ions, the electrolyte base, and transition time. The use of sulfates and SCN^- mediums was favorable in these studies on the discharge of the UO_2^{+} ion. Hydrolysis of U^{6+}, U^{5+}, and U^{4+} appreciably disturbed the discharge of these ions. The uranium precipitated in basic medium, but in $CO_3^{=}$ medium a soluble complex formed. The discharge of this complex was totally or partially irreversible; it appeared to be independent of the pH.

STANDARD METHODS FOR THE ANALYSIS OF TOBACCO AND TOBACCO SMOKE. [1962] 17p.
Order from K-H $21.25 K-H 12539 f

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 8, p. 307-314.

DESCRIPTORS: *Tobacco, *Smokes, Test methods, Chemical analysis, Cigarettes.

Aleksandrovich, I. F. and Kuritsina, G. N.
A METHOD FOR DETERMINING THE GLYCEROL CONTENT OF A CELLOPHANE FILM. 21 Feb 63 [4]p. 7 refs.
Order from OTS or SLA $1.10 63-16387

Trans. of Khim[icheskie] Volokna (USSR) 1962, no. 6, p. 57.

DESCRIPTORS: *Plastic films, *Glycerols, Quantitative analysis, Interferometers.

An express method was developed for determining the glycerol content in a cellophane film from the change in the refractive index of water containing glycerol. For this, the film was placed in contact with water, and the refractive index of the solution obtained by washing the glycerol out of the film was determined. The increase in refractive index was measured on ITR-1 and ITR-2 interferometers for liquids. (Author)

Alekseeva, K. V. and others.
THE INFLUENCE OF VARIOUS PROCESS PARAMETERS IN PREPARATIVE CHROMATOGRAPHY.
9 Aug. 1962, 13p. 13 refs. MTWL-1121.
Order from OTS or ETC $0.80 63-26230

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1962 [v. 7] no. 4, p. 60-66.

DESCRIPTORS: *Chromatographic analysis, Gases, Pipes, Velocity.

Alimarin, I. P. and Puzdrenkova, I. V.
COMPLEX PERIODATE COMPOUNDS OF RARE EARTH ELEMENTS (O Periodatnykh Kompleksnykh Soedineniyakh Redkozemel'nykh Elementov) tr. by Lydia Venters. Mar 63 [5]p. 2 refs.
Order from OTS or SLA $1.10 AEC-tr-5703

Trans. of Moscow U. Vestnik Ser[iya] Mat[ematiki] Mekhan[iki] Astron[omii] Fiz[iki] Khim[ii] (USSR) 1959, v. 14, no. 2, p. 213-216.

DESCRIPTORS: *Rare earth elements, *Lanthanum, *Cerium, *Praesodymium, *Erbium, Thorium, *Potassium compounds, Hydroxides, Complex compounds, Ion exchange, *Iodates, Oxidation, Complex compounds.

Complex periodate compounds of lanthanum, cerium, praseodymium, erbium and thorium in potassium hydroxide medium were obtained. It was found that cerium forms one complex compound when tetravalent. Trivalent cerium is oxidized to tetravalent by potassium periodate. By using the ion exchange method, it was found that cerium and other rare earth elements form complex anions. Lithium salts of complex periodate compounds of cerium and praseodymium do not have a definite composition, because lithium periodate simultaneously is separated. (Author)

Asmaev, P. G. and Mokhnachev, I. G.
THE SEPARATION AND IDENTIFICATION OF THE KETO ACIDS IN TOBACCO BY MEANS OF PAPER CHROMATOGRAPHY. [1962] 9p. 4 refs.
Order from OTS or SLA $1.10 63-16921

Trans. of Izves[tiya] Vysshikh Ucheb[nykh] Zavedenii. Pishchevnaya Tekhnol[ogiya] (USSR) 1960, no. 5, p. 160-164
Other translations are available from K-H $7.25 as K-H 11401-a [1962] 5p. and from OTS or SLA $1.10 as 61-20248 [1961] 7p.

DESCRIPTORS: *Tobacco, Smokes, Cigarettes, *Ketones, Carboxylic acids, *Pyruvic acid, *Phenyl radicals, *Oxalacetic acid, *Glyoxylic acid, Separation, Identification, Chromatographic analysis, *Paper chromatography.

For abstract see Technical Translations 6:890, 1961.

Asmaev, P. G. and Nikolaeva, L. A.
PROCEDURE FOR DETERMINING THE TECHNOLOGICAL PROPERTIES OF TOBACCO RAW MATERIAL. [1962] 7p. 8 refs.
Order from OTS or SLA $1.10 63-16923

Trans. of Tabak (USSR) 1960, v. 21, no. 1, p. 40-42.
Another trans. is available from K-H $8.75 as K-H 10789 [1962].

DESCRIPTORS: *Tobacco, Chemical analysis.

Asmaev, P. G. and Yunoshev, V. K.
CORRELATION OF CONTENT OF PHENOLIC COMPOUNDS WITH COLORATION OF TOBACCO. [1961] 5p. 7 refs.
Order from OTS or SLA $1.10 63-16922

Trans. of Tabak (USSR) 1957, v. 18 [no. 1] p. 43-44.
Another trans. is available from K-H $7.25 as K-H 6648 [1961] 5p.

DESCRIPTORS: *Tobacco, *Phenols, *Colors, Processing, Dehydration.

Barkemeyer, H. and Seehofer, F.
ON A NEW METHOD FOR THE PRECIPITATION OF TOBACCO SMOKE IN LIQUIDS. (WITH DISCUSSION). [1962] [6]p. 4 refs.
Order from SLA $1.10 63-16620

Trans. of Beiträge zur Tabakforschung [sic] 1961, no. 3, p. 93-96.
Another trans. is available from K-H $6.25 as K-H-11411-1 [1962] 5p.

DESCRIPTORS: Precipitation, *Tobacco, *Smokes, Liquids.

Bendzeladze, A. K. and Schchukin, A. I.
ELECTRONIC HYGROMETER PWTK-1 FOR THE RAPID DETERMINATION OF THE MOISTURE IN TOBACCO. [Sep 60] 4p.
Order from OTS or SLA $1.10 63-16926

Trans. of Tabak (USSR) 1959, v. 20, no. 3, p. 22-23.
Another trans. is available from K-H $5.00 as K-H 10177-a, Sep 60, 4p.

DESCRIPTORS: *Tobacco, Moisture, Determination, *Hygrometers, Electronic equipment.

Bethmann, M. von, Lipp, G., and Nooy, H. van.
MOISTURE DETERMINATION IN TOBACCO. Lecture: Coresta Symposium, Aug 60, supplemented Oct 60. [1963] 25p. 3 refs.
Order from SLA $2.60 63-16621

Trans. of Beiträge zur Tabakforschung [sic] 1961, no. 1, p. 19-29.

DESCRIPTORS: *Moisture, *Tobacco, Distillation, Benzenes.

The methods which are presently customary for the determination of tobacco moisture are compared. Results of investigations follow which were obtained by means of the distillation method with the use of various distilling agents. Distillation with benzene under standard conditions is proposed as a standard method of moisture determination for calibration and laboratory purposes (50 g. tobacco in 350 ml. anhydrous benzene, 1000-ml. round-bottom flask, simple rising apparatus according to DIN 53,656, distillation rate 10-20 ml./min., distilling period: 90 min.). (Author)

Boitsov, E. N. and Finkel'shtein, A. I.
A SPECTROPHOTOMETRIC METHOD FOR THE ANALYSIS OF MELAMINE AND PRODUCTS OF ITS HYDROLYSIS: AMMELINE, AMMELIDE, CYANURIC ACID. 12 Dec 62 [6]p. 6 refs.
Order from OTS or SLA $1.10 63-16413

Trans. of #Zhurnal Analiticheskoi Khimii (USSR) 1962, v. 17 [no. 6] p. 748-750.

DESCRIPTORS: Ultraviolet spectrophotometers, *Ultraviolet spectroscopy, *Melamine, Hydrolysis, *Cyanuric acid.

A spectrophotometric method for the determination of melamine, ammeline (0.7% error), ammelide, and cyanuric acid (2% error) in their mixtures was developed The time required for one determination does not exceed 40 minutes. (Author)

Brada, Z.
CALORIMETRIC DETERMINATION OF THE ACETATE (CH_3COO^1) ION. [1963] 5p.
Order from K-H $7.25 K-H-3980a

Trans. of Chemicke Listy (Czechoslovakia) [1943] v. 37, p. 289-290.

DESCRIPTORS: Ions, *Acetates, *Colorimetry.

Cuzin, J. L. and others.
THE PYROGENATION STATUS IN THE CIGARETTE. [Dec 60] 16p.
Order from SLA $1.60 63-16970

Trans. from mono. Internat[ional] Sci[entific] Tob[acco] Cong[ress] (no. 2) Brussels [8-15 June] 58. [Proceedings].
Another trans. is available from K-H $20.00 as K-H-10481 b, Dec 60, 16p.

DESCRIPTORS: *Cigarettes, *Pyrogens, Tar, Temperature.

A presentation is made of a first attempt at correlational analysis of the relations which can be noticed between the maximum temperature in the glowing zone, the optical density of the tars and the external or internal definition parameters of the burning process. An, outline is given of a first approximation of the thermal gradient in the glowing zone. (Author)

Dewald, W. and Schmidt, H.
CONTRIBUTION TO THE ANALYTICAL DETERMINATION OF VARIOUS PHOSPHATES IN THE PRESENCE OF ONE ANOTHER. I. IMPROVEMENT OF THE BRITSKI-DRAGONOFF PYROPHOSPHATE DETERMINATION. II. DETERMINATION OF PYROPHOSPHATE AND HIGH POLYMER METAPHOSPHATE (Beiträge zur Analytischen Bestimmung der Verschiedenen Phosphate Nebeneinander, I-II). [1963] 41p. (foreign text included) 12 refs.
Order from SLA $4.60 63-16828

Trans. of Z[eitschrift für] Analyt[ische] Chem[ie] (West Germany) 1951, v. 134, p. 17-22, ##86-95. ##Another trans. is available from SLA mi$1.80, ph$1.80 as 60-18062 [1960] [9]p.

DESCRIPTORS: *Phosphates, Chemical analysis, Heating.

After reviewing previous published work on the analytical separation of various phosphates, the authors report on their investigation of the Bell titrimetric procedure. They found that by use of an empirical factor dependent on the quantity of NaOH used it is possible to get good results by this method, which is to precipitate the pyrophosphate with zinc sulfate solution, both solutions being adjusted to 3.8 pH before mixing, then titrate with 0.1 n NaOH to pH 3.8

$$H_2P_2O_7^{2-} + 2\ Zn^{2+} = Zn_2P_2O_7 + 2\ H^+$$

A curve is given for the correction factor to be applied, the systematic error being due to incomplete precipitation of $Zn_2P_2O_7$. The systematic error when using $ZnCl_2$ in place of $ZnSO_4$ is small, but results with the former are not as closely reproducible as with the sulfate and correction factor. The presence of trimetaphosphate $(NaPO_3)_3$ does not interfere with the titrimetric determination of pyrophosphate, but unsatisfactory results were obtained for trimetaphosphate in the filtrate from the zinc precipitation, the precipitate containing zinc in some cases.

Fetvadzhiev, Vladimir.
A COMBINATION FERMENTATION METHOD. [1962] 5p.
Order from SLA $1.10 63-16898

Trans. of Bulgar[ski] Tyutyun, 1959, v. 4, p. 500-502.
Another trans. is available from K-H $6.25 as K-H-11499-b, 1962, 5p.

DESCRIPTORS: *Tobacco, *Fermentation, Temperature, *Aging (Materials).

Filin-Koldakov, B. V. and Popova, L. P.
DETERMINATION OF ACIDS IN TOBACCO SMOKE BY POTENTIOMETRIC TITRATION IN A NON-AQUEOUS MEDIUM. [Apr 62] 9p. 18 refs.
Order from OTS or SLA $1.10 63-16689

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zavedenii. Pishchevaya Tekhnol[ogiya] (USSR) 1960, no. 5, p. 165-169.
Another trans. is available from K-H $12.50 as K-H 11401-b, Apr 62, 10p.

DESCRIPTORS: Chemical analysis, *Smokes, *Tobacco, Cigarettes, Titration, *Organic acids, Potentiometers.

The literature on the composition of organic acids of tobacco smoke and the existing methods for determining them is reviewed. A method is proposed for determining the acid content of smoke by means of potentiometric titration of non-aqueous smoke solutions; it is the most rapid and is sufficiently precise. Results from the analysis of smoke from different varieties of tobacco are given. (Author)

Gamsjäger, H., Ornig, H., and Schwarz-Bergkampf, E.
LITHIUM CONTENT IN AUSTRIAN SALINE MOTHER LIQUIORS. [1963] 5p. (figs. omitted) 13 refs.
Order from SLA $1.10 63-14102

Trans. of Mikrochimica Acta (Austria) 1957 [no. 3/4] p. 607-612.

DESCRIPTORS: *Lithium, *Salts, *Test methods, Spectrophotometers, Chemical analysis.

The lithium content of brine mother liquors may be determined by the flame photometer after the sodium chloride has been removed with hydrogen chloride gas. A simplified calibrating process is used, based on the addition of known amounts of lithium corresponding to an internal standard procedure. The usability of these methods is demonstrated by the results of the investigation of Austrian saltworks mother liquors. (Author)

Germain, J. E., and Valadon, F.
STUDY OF THE OXIDATION OF COAL. II. ANALYSIS OF BENZENE POLYCARBOXYLIC ACIDS, tr. by L. M. Ferris. 18 July 62, 15p. 9 refs.
Order from OTS or SLA $1.60 AEC-tr-5233

Trans. from Soc[iété] Chim[ique] de France. Bull[etin] 1960, no. 11/12.

DESCRIPTORS: *Coal, Oxidation, *Benzene derivatives, *Carboxylic acids, Separation, *Chromatographic analysis, Gels, Ammonia

A column partition chromatographic method was applied to the analysis of benzenepolycarboxylic acids in the soluble acids from the oxidation of soft coal. It was found that the mixture contained about 26% tricarboxylic acids, 40% tetracarboxylic acids, 26% of the pentacarboxylic acid, and 8% of the hexacarboxylic acid. The composition of the mixture depended little on the oxidation conditions.

Grimer, G.
SEPARATION OF A CIGARETTE SMOKE CONDENSATE INTO HYDROCARBONS, PHENOLIC, BASIC AND NEUTRAL FRACTIONS. [1962] 14p.
Order from K-H $17.50 K-H-12539c

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 7, p. 291-297.
Another trans. is available from SLA $1.60 as 63-14393 [1963] 14p.

DESCRIPTORS: *Smokes, *Cigarettes, Separation, Hydrocarbons, *Distillation, Tobacco, Chemical analysis, Phenols.

Grob, K.
DETERMINATION OF THE pH VALUE AND BUFFERING CAPACITY OF CIGARET SMOKE AS A ROUTINE METHOD. [1962] 5p. 3 refs.
Order from SLA $1.10 63-16660

Trans. of Beiträge zur Tabakforschung [sic] 1961, no. 3, p. 97-100.
Another trans. is available from K-H as K-H 11411-3 [1962] 5p.

DESCRIPTORS: Tobacco, *Smokes, *Cigarettes, Hydrogen ion concentration, Buffers.

Grob, Kurt.
ON THE GAS CHROMATOGRAPHY OF CIGARETTE SMOKE. PT. 1. A METHOD FOR THE ROUTINE ANALYSIS OF THE GAS-VAPOR PHASE. [1962] 10p.
Order from K-H $12.50 K-H 12539 b

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 7, p. 285-290.
Another trans. is available from SLA $1.10 as 63-14394 [1963] 10p.

DESCRIPTORS: *Gas chromatography, *Cigarettes, *Smokes, Chemical analysis, Vapors, Gas analysis, Gases, Tobacco.

Grynberg, H[alina].
MÉTHODE DE DÉTERMINATION RAPIDE DU RÉSIDU ORGANIQUE DE LA GLYCÉRINE (Detection of Organic Impurities in Glycerol). 10p. 6 refs. FX-789.
Order from OTS, ETC or CNRS $0.80 62-26462

Trans. in French of Prace Instytutow i Laboratoriow Badawczych Premyslu Spozywczego (Poland) 1958 [v. 8] no. 5, p. 45ff.

DESCRIPTORS: *Glycerols, Chemical impurities, Determination, *Titration.

Gyuzelev, Lynben G.
AN EXPERIMENT TO ESTABLISH OBJECTIVE STANDARDS FOR THE MOST IMPORTANT BULGARIAN ORIENTAL TOBACCOS. [1963] 24p. 15 refs.
Order from SLA $2.60 63-16887

Trans. of Bulgar[ski] Tyutyun, 1961, v. 6, no. 1, p. 33-43.

DESCRIPTORS: *Tobacco, Standards, Taste, Colors, Acceptability, Chemical analysis.

There exists an interrelationship between some substances in the chemical composition of tobacco and the tobacco smoke. This makes it unnecessary to determine

some of the substances in the fermented tobacco which may be intended to be used as objective indicators. Such are, for example, ammonia, total nitrogen, "free nicotine," general reduction, monosaccharides and disaccharides in tobacco and total reduction, total nitrogen (sic), nicotine and the pH of the smoke. Objective indicators were established for determining separately the physiological strength, taste, aroma and harmony which surpass the old quality numbers. The connection between the physical properties and quality is explained and it is established that the large size, the volume weight and the color of the tobacco could serve as the basis for introducing in the future mechanized sorting of tobacco leaves. Established and concretely defined are concepts of material nature and tobacco content as well as formulas for their estimation; also is included the quality number for content which is the most reliable objective indicator for the quality of out tobaccos. (Author)

Hausermann, M. and Waltz, P.
A RAPID SPECTROPHOTOMETRIC METHOD FOR THE DETERMINATION OF CHLOROGENIC ACID AND RUTIN IN TOBACCO. [1962] 19p.
Order from K-H $23.75 K-H-12359 a

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 7, p. 275-284.

DESCRIPTORS: *Tobacco, *Vitamin P, *Chlorogenic acids, *Spectrophotometers, Chemical analysis.

Hübschen, L.
A NEW INSTRUMENT FOR MOISTURE DETERMINATION ACCORDING TO THE DISTILLATION METHOD. [1962] 6p.
Order from SLA $1.10 63-16885

Trans. of Z[eitschrift für] Lebensm[ittel-Untersuchung und -Forschung] (West Germany) 1960, v. 111, p. 371-373.
Another trans. is available from K-H $7.50 as K-H-11363-b [1962] 6p.

DESCRIPTORS: Instrumentation, *Moisture, Tobacco, Distillation.

A new instrument for the determination of moisture on the basis of the distillation method is proposed which has proved itself particularly for tobacco. (Author)

Hutter, Jean-Claude.
CONTRIBUTION TO THE STUDY OF THE ACTION OF HYDROGEN ON PHOSPHATES (PREPARATION OF PHOSPHATES AT LOW TEMPERATURES). [1963] 12p. 36 refs.
Order from SLA $1.60 63-16872

Partial trans. (p. 450-457, 465-466, 494-497) of Annales de Chimie (France) 1953, ser. 12, v. 8, p. 450-497.

DESCRIPTORS: Low temperature research, *Phosphates, *Hydrogen, Chemical reactions.

Ivanov, Nikolai G.
QUANTITATIVE DETERMINATION OF FREE AND BONDED AMINO ACIDS IN THE PROTEIN SUBSTANCES PRESENT IN THE TOBACCO. Rept. 1 on Melanoidin Substances in Tobacco. [1963] 8p. 14 refs.
Order from SLA $1.10 63-16646

Trans. of Bulgar[ski] Tyutyun, 1961, v. 6, no. 1, p. 29-32.

DESCRIPTORS: Chemical analysis, *Amino acids, *Proteins, *Tobacco.

Kazanskii, B. A., Landsberg, G. S. and others.
ÉTUDE DE LA COMPOSITION DE LA FRACTION À TEMPÉRATURE D'ÉBULLITION 150-250° DE L'HUILE BRUTE D'EMBA (Composition of the 150-250 Degrees Fraction of Emba Petroleum). 12p. 11 refs. FR-2324.
Order from OTS, ETC or CNRS $0.80 62-26446

Trans. in French of #Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1959, no. 9, p. 1612-1622.

DESCRIPTORS: *Petroleum, *Hydrocarbons, Determination, *Fractionation.

Kisaki, Takuro, Matsubara, Yoshiko, and Tamaki, Einosuke.
RACEMIZATION OF NICOTINE BY HEAT AND ITS TRANSFORMATION PRODUCTS. [1963] 11p. 19 refs.
Order from OTS or SLA $1.60 63-16690

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1962, v. 36 [no. 4] p. 374-377.

DESCRIPTORS: *Nicotine, *Racemization, Pyrolysis, Chromatographic analysis, Sulfates, Acetates.

Salts of l-nicotine underwent racemization when their aqueous solutions were heated. The sulfate and acetate were more readily racemized than the hydrochloride. (The racemization proceeded more effectively when a salt of d-acid was heated). When heated at 200°C, the salts of l-nicotine yielded nornicotine, dihydrometha-nicotine and a resinous material. The acetate yielded in addition, acetyl compounds. l-Nicotine was more readily racemized than l-nornicotine. (Author)

Kobashi, Y. and Watanabe, M.
QUANTITATIVE DETERMINATION OF PYRIDINE BASES AND NICOTINE BASES BY GAS CHROMATOGRAPHY. [1962] 9p.
Order from K-H $11.25 K-H-12240b

Trans. of [Nihon] Kagaku Zasshi (Japan) 1961, v. 82, p. 1265-1267.

DESCRIPTORS: *Gas chromatography, *Nicotine, *Pyridines, Quantitative analysis.

Kobashi, Yusuke; Sakaguchi, Soichi, and Izawa, Masao.
INFLUENCE OF MOISTURE CONTENT OF CIGARETTES ON COMBUSTION TEMPERATURE AND AMOUNT OF NICOTINE TRANSFERRED INTO CIGARETTE SMOKE. Rept. 2 of Studies on the Thermal Decomposition of Tobacco Alkaloids. [Oct 60] 10p. 5 refs.
Order from SLA $1.10 63-16120

Trans. of [Nihon Senbai Kosha Chuo Kenkyusho Kenkyu Hokoku] (Japan) 1960, no. 102, p. 6-9.
Another trans. is available from K-H $12.50 as K-H-10309-a, Oct 60, 10p.

DESCRIPTORS: *Nicotine, *Tobacco, *Cigarettes, *Smokes, *Combustion, Moisture, Toxicity.

Studies were carried out on the influence of the moisture content of cigarettes on the combustion temperature and the amount of nicotine transferred to the cigarette smoke, using cigarettes of moisture content 6.61%, 10.93% and 15.40%. The combustion temperature of cigarettes was hardly affected by not only the manner of smoking, but also by the moisture content when the moisture content ranged between 6.61% and 15.40% and the puffing rate between 10 ml/sec. and 40 ml/sec. The combustion temperature ranged between 794 ± 25.3 and 827 ± 21.1° C. Even under identical smoking conditions, the amount of nicotine transferred to the cigarette smoke varies in accordance with the moisture content in the range of 6.61%-15.40%. Although there is only a small difference in the amount for cigarettes containing 10.93% and 15.40% moisture, whenever the moisture content drops below these values, the tendency is for the amount of nicotine transferred to the cigarette smoke to increase. This phenomenon is considered to be due to the change in the number of puffs and combustion time resulting from the change in moisture content. (Author)

Kohashi, Yusuke.
IDENTIFICATION OF PYRIDINE BASES AND NICOTINE BASES BY GAS CHROMATOGRAPHY. [1962] 12p.
Order from K-H $14.50 K-H-12240a

Trans. of [Nihon] Kagaku Zasshi (Japan) 1961, v. 82, p. 1262-1265.

DESCRIPTORS: *Gas chromatography, *Nicotine, *Pyridines, Identification.

Korshunov, V. I. and Shmuk, E. I.
ESTUDIO SOBRE LA OBTENCION DE OXIDO DE ALUMINIO A PARTIR DE RESIDUOS DE LA CONCENTRACION DE CARBONES (Issledovanie po Izvlecheniyu Okisi Alyuminiya iz Otkhodov Obogashcheniya Uglei) (Obtention of Aluminum Oxide from Coal Concentration Residues). 13p. 3 refs.
CID: 62-293.
Order from OTS, ETC or CID $0.80 62-29293

Trans. in Spanish of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1957, no. 2, p. 153-155.

DESCRIPTORS: *Coal, *Aluminum compounds, Industrial production, *Oxides.

Merck, E.
CONCERNING THE DETERMINATION OF FERRUM REDUCTUM (Über die Wertbestimmung von Ferrum Reductum). [1963] [5]p. (foreign text included) 4 refs.
Order from SLA $1.10 63-16761

Trans. of Zeitschrift für Analytische Chemie (Germany) 1902, v. 41, p. 710-711.

DESCRIPTORS: *Iron, Reduction, Chemical analysis.

Miller, J. E.
DETERMINATION OF THE SMOKE COMPONENTS IN PIPE TOBACCO WITH THE USE OF A NEW PIPE SMOKING MACHINE. [1962] 12p.
Order from K-H $15.00 K-H 12539 d

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 7, p. 298-304.

DESCRIPTORS: Machines, Test equipment, *Tobacco, *Smokes, Chemical analysis.

Schomburg, G.
RECENT DEVELOPMENTS IN THE FIELD OF GAS CHROMATOGRAPHY DETECTORS. [1963] [BGIRA] no. 565.
Order from BGIRA BGIRA-565

Trans. of Z[eitschrift für] Anal[ytische] Chem[ie] (West Germany) 1962 [v. 189] no. 1, p. 14-50.

DESCRIPTORS: *Gas chromatography, Detectors.

Terent'ev, A. P., Turkel'taub, A. M. and others.
GAS-CHROMATOGRAPHIC DETERMINATION OF NITROGEN AND OXYGEN IN ORGANIC COMPOUNDS 2 May 63 [8]p. 6 refs.
Order from OTS or SLA $1.10 63-16416

Trans. of Akademiya Nauk SSSR. Doklady, 1963, v. 148 [no. 6] p. 1316-1319.

DESCRIPTORS: *Nitrogen, *Oxygen, *Gas chromatography, Chromatographic analysis, Organic compounds.

Thomas, M. V.
CONCERNING THE MIXED LEAD HALIDES. [1963] 5p. 7 refs.
Order from SLA $1.10 63-16789

Trans. of Soc[iété] Chim[ique de France]. Bull[etin] 1898 [ser. 3] v. 19, p. 488-494.

DESCRIPTORS: *Halides, *Lead compounds, Mixtures.

Thomas, M. V.
THE MIXED HALIDES OF LEAD. [1963] 6p. 1 ref.
Order from SLA $1.10 63-16790

Trans. of Soc[iété] Chim[ique de France]. Bull[etin] 1898 [ser. 3] v. 19, p. 598-603.

DESCRIPTORS: *Halides, *Lead compounds, Mixtures.

Thomas, M. V.
ON THE CHLOROBROMIDES OF LEAD. [1963] 2p.
Order from SLA $1.10 63-16791

Trans. of Soc[iété] Chim[ique de France). Bull[etin] 1899, ser. 3, v. 21, p. 532.

DESCRIPTORS: *Lead compounds, *Bromides, *Chlorides.

Topchiev, A. V., Musaev, I. A. and others
COMPOSITION CHIMIQUE DES ESSENCES DE CRACKING PROVENANT DE PÉTROLES NAPHTÉNIQUES. COMM. I. (CHEMICAL COMPOSITION of Gasolines Obtained by Cracking Naphthenic Stocks. I.) 9p. 11 refs. FR-1740.
Order from OTS, ETC or CNRS $0.80 62-26455

Trans. in French of #Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1961, no. 1, p. 94-102.

DESCRIPTORS: *Petroleum, *Naphthenes, Decomposition, Hydrocarbons Chemical analysis, Gasoline.

Vecsernyes, L. and Zombori, V.
SPECTROCHEMICAL ANALYSIS OF $SiCl_4$. [1963] 4p.
Order from ATS $5.50 ATS-13Q71G

Trans. of Chemia Anal[ityczna] (Poland) 1962, v. 7, no. 2, p. 429-433.

DESCRIPTORS: *Silicon compounds, *Chlorides, Spectrographic analysis, Chemical analysis.

Inorganic Chemistry

MANUFACTURE OF ALKALI-SULFATES. 15 Mar 43, 3p.
Order from OTS or SLA $1.10 63-16068

Trans. of German patent 593,923, 2 Sep 31, by Kali-Forschungs G. m. b. H.

DESCRIPTORS: *Sulfates, *Alkali metal compounds, Ammonium compounds, Decomposition, Solubility.

PROCESS FOR THE MANUFACTURE OF ANHYDROUS OR PARTIALLY DEHYDRATED SULFATES. [1963] [1]p.
Order from OTS or SLA $1.10 63-16087

Trans. of German patent 539,945, cl. 12g, gr. 1, 12g K 93.30, pub, 26 Nov 31, issued 3 Dec 31 (addition to patent 537,842, 1 Feb 29) pat. from 16 Mar 29, by Kali-Forschungs-Anstalt G. m. b. H.

DESCRIPTORS: *Sulfates, *Anhydrides, Industrial production.

Beil, Curt.
RECOVERY OF POTASSIUM SULFATE FROM KIESERITE AND POTASSIUM CHLORIDE BY MEANS OF POTASH MAGNESIA. [1963] [1]p.
Order from OTS or SLA $1.10 63-16067

Trans. of German patent 577,051, 14 June 32, addition to 551,928, 9 Dec 27, by Wintershall A. G.

DESCRIPTORS: *Potassium compounds, *Sulfates, *Chlorides, *Magnesium compounds, Temperature.

Borsche, Georg.
PROCESS FOR THE RECOVERY OF POTASSIUM SULFATE FROM KIESERITE AND POTASSIUM CHLORIDE. [1963] 3p.
Order from OTS or SLA $1.10 63-16060

Trans. of German patent 2,173/1877, cl. 75, 25 Sep 1877.

DESCRIPTORS: *Potassium compounds, *Sulfates, *Chlorides, *Magnesium compounds, Separation.

Forman, J.
DÉVELOPPEMENT ET PERSPECTIVE DE L'INDUSTRIE DE LA CHIMIE MINÉRALE EN TCHECOSLOVAQUE (Development and Perspectives of the Inorganic Chemical Industry of Czechoslovakia). 4p. FX-988.
Order from OTS, ETC or CNRS $0.80 62-26450

Trans. in French from Chemicky Prumysl (Czechoslovakia) 1960, v. 10[35] no. 4.

DESCRIPTORS: *Sulfuric acid, Production, *Chemical industry, Inorganic substances, *Czechoslovakia.

Grueneberg, R.
PROCESS FOR THE RECOVERY OF POTASSIUM SULFATE FROM POTASSIUM CHLORIDE AND MAGNESIUM SULFATE. [1963] 2p.
Order from OTS or SLA $1.10 63-16066

Trans. of German patent 4,933/1878, 19 Apr 1878.

DESCRIPTORS: *Potassium compounds, *Sulfates, *Chlorides, *Magnesium compounds, Separation.

Hepke, Karl.
PROCESS FOR THE MANUFACTURE OF POTASSIUM MAGNESIUM SULFATE AND POTASSIUM SULFATE. [1963] 5p.
Order from OTS or SLA $1.10 63-16064

Trans. of German patent 313,053 (cl. 121. 4.) 30 Oct 17, by Kaliwerke Groszhergog von Sachsen A. G.

DESCRIPTORS: *Potassium compounds, *Magnesium compounds, *Sulfates, Decomposition.

Jiru, P.
CONTRIBUTION À L'ÉVALUATION DE L'EFFET DES CATALYSEURS DE VANADIUM DANS LA PRODUCTION D''ACIDE SULFURIQUE (Evaluation of the Activity of Vanadium Catalysts for Sulfuric Acid Production). 10p. 6 refs. FX-818.
Order from OTS, ETC or CNRS $0.80 62-26435

Trans. in French of Chemicky Prumysl (Czechoslovakia) 1960 [v. 10(35)] no. 4, p. 180-183.

DESCRIPTORS: *Catalysts, *Sulfuric acid, Production, Experimental data, *Vanadium, Catalysts.

Klimecek, R. and Bettelheim, J.
TRANSFORMATIONS DES GAZ RÉSIDUELS DE LA PRODUCTION DE L'ACIDE SULFURIQUE EN PYROSULFITE DE SODIUM (Working up of Terminal Gases from Sulfuric Acid Production into Sodium Pyrosulfite). 6p. FX-802.
Order from OTS, ETC or CNRS $0.80 62-26437

Trans. in French of Chemicky Prumysl (Czechoslovakia) 1960, v. 10[35] no. 4, p. 190-192.

DESCRIPTORS: *Sulfuric acid, Production, Waste gases, *Sodium compounds, Sulfites.

Perel'man, F. M.
EXPERIENCE OF PREDICTION OF APPROXIMATE MELTING POINTS OF SOME Ni-Ti-Cr-Mo-W-Nb ALLOYS (Opyt Prognoza Orientirovochnykh Temperatur Plavleniya Nekotorykh Splavov Sistemy Ni-Ti-Cr-Mo-W-Nb). June 62 [16]p. (foreign text included) 14 refs. [DSIR] NLL M. 3955.
Order from OTS or SLA $1.60 63-19874

Trans. of #Zhurnal Neorganicheskoi Khimii (USSR) 1962, v. 7, no. 4, p. 844-849.
Another trans. is available from OTS or SLA $1.60 as 62-25979, JPRS-14484, 16 July 62 [18]p.

DESCRIPTORS: *Nickel alloys, *Titanium alloys, *Chromium alloys, *Molybdenum alloys, *Tungsten alloys, *Niobium alloys, Melting.

For abstract see Technical Translations 8: 648, 1962.

Regner, A. and Vosolsobe, J.
DÉTERMINATION DE L'ACTIVITÉ D'UN CATALYSATEUR AU VANADIUM POUR LA FABRICATION D'ACIDE SULFURIQUE (Determination of the Activity of Vanadium Catalyst for the Manufacture of Sulfuric Acid). 17p. FX-54.
Order from OTS, ETC or CNRS $0.80 62-26527

Trans. in French of Chemicke Listy (Czechoslovakia) 1958, v. 52, p. 1235-1242.

DESCRIPTORS: *Catalysts, Chemical reactions, *Sulfuric acid, Production, Determination, Thermodynamics, *Vanadium catalysts.

Wieberg, Egon and Schmidt, Max.
PROCESS FOR THE PREPARATION OF STABLE ETHEREAL SOLUTIONS OF ALUMINUM HYDRIDE. [1963] 3p.
Order from OTS or SLA $1.10 63-16816

Trans. of German patent application W 7062, 8 Jan 53.

DESCRIPTORS: *Aluminum compounds, *Hydrides, Stability, Solutions, Ethers, Halides.

The invention concerns a process for the preparation of stable solutions of aluminum hydride which are selective hydrogenating agents characterized in that aluminum hydride, preferably in the primary low-molecular form, but, if necessary, also in the polymeric stage is caused to react with the calculated amount of aluminum halide in ethereal solution. The halogen derivative of aluminum hydride prepared by reaction between calculated amounts of aluminum hydride and aluminum halide in ethereal solution is isolated from the solution, purified by known methods and obtained again in ethereal solution by the addition of suitable amounts of ether. (Author)

Ziegler, Karl and Koster, Roland.
PROCESS FOR THE PREPARATION OF COMPLEX COMPOUNDS OF ALUMINUM ORGANIC COMPOUNDS AND ALKALI FLUORIDES. [1963] 2p.
Order from OTS or SLA $1.10 63-16815

Trans. of German patent appl. Z 2971, 24 Sep 52

DESCRIPTORS: *Aluminum compounds, *Alkali metal compounds, *Fluorides, Metalorganic compounds, Complex compounds, Methyl radicals, *Ziegler catalysts

The invention involves a process for the preparation of complex compounds of the formula Me $Al[R_2R']F$ wherein R' is a saturated aliphatic or aromatic radical or a hydrogen atom, and Me is an alkali metal, characterized in that aluminum alkyls of the formula AlR_2R' in which R and R' have the meanings given above are caused to react with alkali fluoride. The aluminum alkyls are warmed with alkali fluorides, especially sodium fluoride, in stoichiometric proportions with exclusion of air. For the preparation of very high-melting complex compounds such as potassium aluminum trimethyl fluoride, a solution of aluminum alkyl in an inert solvent is ground with alkali fluoride in the absence of air. Instead of aluminum alkyls, their well-known complex compounds with ethers, thioethers, and amines may be used as starting materials. (Author)

Organic Chemistry

A PROCESS FOR OBTAINING TETRAETHYLATE OF LEAD OR LEAD TETRAETHYL AND OTHER ALKYL COMPOUNDS OF THE SAME METAL. [1963] 3p.
Available from SLA on loan 63-18051

Trans. of Spanish patent 128,591, filed 7 Nov 32, by Posmol, S.A.

DESCRIPTORS: *Ethyl radicals, *Lead compounds, *Alkyl radicals, Halides, Lead alloys, Sodium alloys, Metalorgainc compounds, Antiknock

PROCESS FOR PREPARATION OF d (+)-ALPHA, GAMMA-DIHYDROXY-BETA, BETA-DIMETHYL-BUTYR-(HYDROXYALKYL)-AMIDES. [1963] 2p. 5 refs.
Order from OTS or SLA $1.10 63-14359

Trans. of Danish patent 62,400, 6 July 44, by Hoffman-La Roche.

DESCRIPTORS: *Hydroxides, *Methyl radicals, *Alkyl radicals, *Amides, *Amines, Synthesis (Chemistry), Butyl radicals, Lactones, Growth substances.

An object of the invention is the preparation of d(+)-alpha, gamma-dihydroxy-beta, beta-dimethyl-butyr-(hydroxyalkyl)-amides by reacting d(-)-alpha-hydroxy-beta, beta-dimethyl-gamma-butyrolactone with alkylolamines preferably in a solvent. The compounds have pantothenic acid activity. They are useful as growth promoters. (Author)

A PROCESS FOR THE MANUFACTURE OF TETRAETHYLATE OF LEAD OR LEAD TETRAETHYL. [1963] 3p.
Available from SLA on loan 63-18047

Trans. of Spanish patent 121,651, filed 29 Jan 31, by Ponsa & Moline.

DESCRIPTORS: *Ethyl radicals, *Lead compounds, *Alkyl radicals, Halides, Lead alloys, Sodium alloys, Metalorganic compounds, Antiknock.

A PROCESS FOR THE PRODUCTION, OF AN INDUSTRIAL CHARACTER, OF CHLORIDE OF ETHYL. [1963] 2p.
Available on loan from SLA 63-18048

Trans. of Spanish patent 123,631, filed 15 July 31, by Posmol, S. A.

DESCRIPTORS: *Ethanes, *Chlorides, Industrial production.

PRODUCTION OF GLUTAMIC ACID AND OTHER AMINO ACIDS FROM CRUDE PROTEIN. [1963] 3p.
Order from OTS or SLA $1.10 63-16073

Trans. of published Japanese patent 4118/56, filed 7 Sep 53, pub. 2 June 56, by Ajinomoto Ltd.

DESCRIPTORS: *Glutamic acid, *Amino acids, *Proteins, Hydrazines, Hydrolysis, *Gluten, Wheat.

The invention concerns the production of glutamic acid and other amino acids, characterized in that a hydrazine derivative, semicarbazide derivative, hydroxylamine salt or the like carbonyl reagent is added to crude protein matter when initiating the acid hydrolysis step, or before or after said hydrolysis step, so as to transform levulinic acid and thereby to accelerate the crystallizing out of glutamic acid and other amino acids. (Author)

Arbuzov, Yu. A. and Klimova, E. I.
THE CONDENSATION OF THE ESTERS OF GLYOXALIC ACID WITH KETONES, tr. by M. Kassatkin. Mar 63 [11]p. 10 refs.
Order from OTS or SLA $1.60 UCRL Trans-939

Trans. of #Zhurnal Obshchei Khimii (USSR) 1962, v. 32, no. 11, p. 3676-3681.

DESCRIPTORS: *Glyoxylic acid, Esters, Condensation reactions, *Ketones, Acetones, Acetophenones, Cyclopentanones, Cyclohexanones.

Bashkirov, A. N., Kagan, Yu. B., and Kryukov, Yu. B
SYNTHESIS OF ALCOHOLS AND AMINES FROM CO AND H_2. [1963] [9]p. 4 refs.
Order from OTS or SLA $1.10 63-18057

Trans. of mono. Trudy Vsesoyuznoe Soveshchenie po Khimicheskoi Pererabotke Neftyanykh Uglevodorov v Poluprodukty dlya Sinteza Volokonii Plasticheskikh Mass (All-Union Conference on the Chemical Reprocessing of

Petroleum Hydrocarbons into Intermediate Products for the Synthesis of Fibers and Plastics, Baku, 26-30 May 57) 1960, p. 277-282.

DESCRIPTORS: *Alcohols, *Amines, Alkyl radicals, *Carbon compounds, *Monoxides, *Hydrogen, Aliphatic compounds, Iron catalysts, Synthesis (Chemistry)

Bellinzoni, G.
CONTINUOUS PROCESS FOR SUPERPHOSPHATES: MONTECATINI SYSTEM (WITH TIPPABLE TRUCKS). [1963] [17]p.
Order from SLA $1.60 63-16095

Trans. of Italian language article from unidentified sources, n.d.

DESCRIPTORS: *Phosphates, Sulfuric acid, Automatic, Stirrers, Containers, Manufacturing methods, Costs, Phosphorites, Fertilizers, Industrial production.

Topics include:
Summarized description of diagram and characteristics of the continuous "Montecatini" bin; quality of the super product; comparative data between the discontinuous and the Montecatini systems; use of labor; use of electric power; and maintenance

Berlin, A. A., Matveeva, N. G., and Sherle, A. I.
METHOD FOR THE PRODUCTION OF POLYMERIC CHELATED COMPOUNDS. [1963] 2p.
Order from OTS or SLA $1.10 63-16318

Trans. of Russian patent 126,612, filed 4 July 59 as 624,738/23.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-18143, 8 Aug 60 [2]p. and a review trans. from OTS or SLA $1.10 in 61-19861, AID-61-49, 12 Apr 61, 3p.

DESCRIPTORS: *Chelate compounds, *Thermoplastics, Ethylenes, Cyano radicals, Metals, Semiconducting films, Polymers, *Semiconductors.

The invention concerns a method for obtaining polymeric chelated compounds based on the products of interaction of compounds containing chelate-forming groups by treating them with metals or metal compounds, characterised in that, with the intention of increasing the heat-stability of the end products, the chelate-forming compound used is tetracyanethylene, or its mixture with polynitrilamine containing not less than two nitrile groups on adjacent carbon atoms. (Author)

Brodskii, A. M., Kalinenko, R. P. and others.
FORMATION MECHANISM OF SECONDARY PRODUCTS IN HIGH TEMPERATURE ETHANE CRACKING. [1963] 6p. 3 refs.
Order from OTS or SLA $1.10 63-18423

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 144 [no. 4] p. 817-820.

DESCRIPTORS: *Ethanes, *Ethylenes, *Methanes, *Acetylenes, *Propanes, *Propenes, *Butanes, *Butenes, *Butadienes, *Chemical reactions, Decomposition, Pyrolysis.

The work was devoted to investigation of the formation mechanism of main secondary products during high temperature cracking of ethane to ethylene. Formation of CH_4, C_2H_2, C_3H_8, C_3H_6, C_4H_{10}, C_4H_8 and C_4H_6 was investigated. (Author)

Cerniani, Ado.
COMPARATIVE THERMIC DECOMPOSITION OF SOME MONOSACCHARIDES, OLIGOSACCHARIDES AND POLYSACCHARIDES. [1963] [18]p.
Order from SLA $1.60 63-16350

Trans. of Ann[ali di] Chim[ica] (Italy) 1951, v. 41, p. 455-464.
Another trans. is available from K-H $12.00 as K-H-5876-a

DESCRIPTORS: *Pyrolysis, *Saccharides, Glucose, Lactose, Cellulose, Starches.

From the comparative tests carried out on the behavior of glucose, saccharose and milk sugar heated in air, it was noted that the first two sugars begin to decompose around 130° while the milk sugar, after having lost the molecule of water of crystallization between 100° and 120°, decomposes at 140°. From the modifications ascertained and particularly from the complex loss in weight in consequence of the heating in air up to 200°, it was shown that, among the three sugars used in the experiment, saccharose is that which presents the least resistence to thermic decomposition. Gaseous pyrolysis, studied during the dry distillation in the vacuum, made certain for the sugars and for starch two clearly marked points in the gaseous decomposition, and precisely the first around 250° and the second around 350°, while for cellulose there is a single maximum of gaseous decomposition around 300°. (Author)

Cuzin, Jean-Loius, Hubert-Habart, Michel and others.
THE PRODUCTION OF 3,4-BENZOPYRENE IN CIGARETTES WITH PAPERS IMPREGNATED WITH AMMONIUM SULFAMATE. 17 Oct 60, 4p. 10 refs.
Order from SLA $1.10 63-16619

Trans. of Société Chimique de France. Bulletin, 1960, no. 5, p. 982.

DESCRIPTORS: *Cigarettes, *Smokes, Tobacco, *Benzopyrenes, Paper, Impregnation, Ammonium radicals, *Sulfamates, Toxicity.

Impregnation of standard cigarette paper with ammonium sulfamate did not significantly reduce the quantity of 3,4-benzopyrene produced by combustion of the cigarettes. (Author)

Dolgov, B. and Volnov, Yu.
HYDROGENATION AND REARRANGEMENT OF THE DERIVATIVES OF MONO-SILANE. REPT. 2 on Research in the Field of Silico-Organic Compounds. [1963] 21p. 18 refs.
Order from OTS or SLA $2.60 63-16803

Trans. of Zhur[nal] Obshchei Khim[ii] (USSR) 1931, v. 1, p. 91-104.

DESCRIPTORS: *Silanes, *Molecular structure, Benzenes, Alcohols, Phenyl radicals, Phenols, Cyanates, Oils, Pressure, Hydrogenation.

Drozdov, N. S.
CONDENSATION OF FORMALDEHYDE WITH AROMATIC AMINES. [1963] 6p.
Order from ATS $10.75 ATS-25Q70R

Trans. of Zh[urnal] Obshch[ei] Khim[ii] (USSR) 1931, v. 1, no. 10, p. 1171-1176.

DESCRIPTORS: *Amines, *Formaldehyde, Condensation reactions.

Ershov, V. V., Volod'kin, A. A., and Bogdanov, G. N
THE PHENOL-DIENONE REARRANGEMENT IN REACTIONS OF PHENOLS. [1963] 43p.
Order from ATS $26.85 ATS-15Q71R

Trans. of #Uspekhi Khim[ii] (USSR) 1963, v. 32, no. 2, p. 154-194.

DESCRIPTORS: *Phenols, Dienes, Ketones, Chemical reactions.

Fetvadzhiev, Vladimir.
THE CURING OF VIRGINIA TOBACCO. [1962] 7p.
Order from SLA $1.10 63-16899

Trans. of Bulgar[ski] Tyutyun, 1959, v. 4, p. 454-457. Another trans. is available from K-H $8.75 as K-H-11499-c, 1962, 7p.

DESCRIPTORS: *Tobacco, Virginia, Aging (Materials), Temperature, Fermentation.

Freidlin, L. Kh., Sharf, V. Z. and others.
INVESTIGATION OF THE DEHYDRATION OF PRIMARY, NORMAL AMYLIC ALCOHOL AND ON THE ISOMERIZATION OF PENTENE-1 UPON AN ALUMINOSILICATE CATALYST. [1963] 6p. 3 refs.
Order from OTS or SLA $1.10 63-18420

Trans. of Kinetika i Kataliz (USSR) 1962, v. 3, [no. 1] p. 114-117.

DESCRIPTORS: *Alcohols, *Pentenes, Dehydration, *Molecular isomerism, Catalysts, *Alumina-silica catalysts.

The dehydration is accompanied with an isomerization of pentene-1 to pentene-2 and with a skeleton isomerization of the normal pentenes. The isomerization rate of pentene-1 is significantly greater, than its formation rate from the alcohol, and the composition of the mixture of n-pentenes formed is close to that at equilibrium. Pentene-1 undergoes isomerization to pentene-2 and to 2-methylbutene-2 in the absence of alcohol, but the migration of double bond occurs thereby slower, than in the presence of alcohol. (Author)

Gritsenko, T. M., Yakubovich, V. S. and Kartsovnik, B. I.
POLYMERIZATION OF ACRYLONITRILE IN THE PRESENCE OF A ZIEGLER CATALYST. Aug 63, 2p, 3 refs.
Order from ES $2.00

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, no. 7 [p. 1122].
Other translations are available from PP in Polymer Science USSR, v. 3, no. 2, $100.00/year and from OTS or SLA $1.10 as 62-13987 [1961] [3]p.

DESCRIPTORS: *Polymerization, *Acrylonitriles, Catalysts, Ziegler catalysts.

For abstract see Technical Translations 8: 651, 1962.

Hayashi, Mosuke and Okazaki, Mitsuo.
FLOURESCENT WHITENING AGENTS. 30 June 62, 13p. (tables omitted) 7 refs.
Order from SLA $1.60 63-14037

Trans. of Yuki Gosei Kagaku Kyokai Shi (Japan) 1955, v. 13, p. 458-470.

DESCRIPTORS: *Fluorescence, *Dyes, Chemical analysis, Chemical properties, *Organic compounds.

This article describes the chemical structure of flourescent whitening agents from the standpoint of organic synthesis.

Hori, S. and others.
RESOLUTION OF NEUTRAL OR ACIDIC AMINO ACIDS WITH OPTICALLY ACTIVE AMINO ACID AMINES. [1963] 4p.
Order from OTS or SLA $1.10 63-16089

Trans. of published Japanese patent 13/57, filed 31 May 54, pub. 12 Jan 57, by Ajinomoto Ltd.

DESCRIPTORS: *Amino acids, *Amines, *Resolution, *Stereochemistry, Glutamic acid, Salts, Sodium compounds, Crystallization.

Horner, Leopold, Reuter, Heinrich, and Herrmann, Edith.
INFLUENCE OF THE STRUCTURE OF ORGANIC SUBSTANCES ON THE POISONING OF RANEY NICKEL HYDROGENATION CATALYSTS. [1963] [10]p. (figs. tables refs. omitted).
Available from SLA on loan 63-16529

Trans. of Justus Liebigs Annalen der Chemie (West Germany) 1962, v. 660, p. 1-23.

DESCRIPTORS: *Catalysts, Hydrogenation, *Nickel, *Organic compounds, Cyclohexenes, Chemisorption, Crystal structure, Nitriles, Sensitivity.

Hubert-Habart, M., Muel, B. and others.
ORGANIC CHEMISTRY: INHIBITING EFFECT OF OXYGENATED MINERAL SALTS ON THE FORMATION OF 3,4-BENZPYRENE DURING THE COMBUSTION OF CIGARETTE PAPER. [1962] 3p. 5 refs.
Order from SLA $1.10 63-16884

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1958, v. 246, no. 9, p. 1440-1441 (pub. by Gauthier Villars et Cie., Paris).
Another trans. is available from K-H $3.75 as K-H-8467-b [1962] 3p.

DESCRIPTORS: *Tobacco, *Cigarettes, Minerals, Salts, *Benzopyrenes, Paper, Combustion.

The quantity of 3,4-benzpyrene formed in the course of the combustion of cigarette paper may be lowered to less than 5% of its normal value by sufficient impregnation with $NaNO_2$. The inhibition is a function of the load in mineral salt. An analogous effect was observed with KM_nO_4 and $Na_2Cr_2O_7$. (Author)

Imanishi, Y., Mizote, A. and others.
ESTIMATION OF THE REACTIVITY OF THE GROWING ION FROM THE CHAIN TRANSFER REACTION IN CATIONIC POLYMERIZATION. [1963] 9p.
Order from ATS $13.80 ATS-98Q69J

Trans. of Kobunshi Kagaku (Japan) 1963, v. 20, no. 213, p. 58-64.

DESCRIPTORS: *Polymerization, *Ion exchange, Exchange reactions, Reaction kinetics, Polymers, *Molecular structure.

Ipatiev, V. N.
ALUMINUM OXIDE AS CATALYST IN ORGANIC CHEMISTRY. [1963] [126]p. refs.
Order from OTS or SLA $10.10 63-10691

Trans. of German edition of Russian mono. [Aluminum Oxyd als Katalysator in der Organischen Chemie, tr. and ed. by Carl Freitag, Leipzig, n.d.].

DESCRIPTORS: *Aluminum compounds, *Oxides, *Catalysts, Catalysis, *Chemical reactions, *Dehydrogenation, *Dehydration, *Condensation reactions, *Alcohols, *Aldehydes, Ethers, Ethylenes, Hydrocarbons, Amines, Decomposition, Chemistry.

Isogai, Koji.
ÉTUDE SUR LA DÉCOMPOSITION PAR RÉDUCTION (23e rapport). DÉCOMPOSITION PAR RÉDUCTION CATALYTIQUE DES DÉRIVES DE L'ACIDE BENZYLIQUE (Studies on Hydrogenolysis. XXIII. Catalytic Hydrogenolysis of Benzilic Acid Derivatives). 8p. 16 refs. FX-751.
Order from OTS, ETC or CNRS $0.80 62-26461

Trans. in French of Nihon Kagaku Zasshi (Japan) 1961, v. 82, p. 247-250.

DESCRIPTORS: *Benzoic acids, Alkyl radicals, *Hydrogenation, Palladium, Nickel, Chlorides, Hydroxides, Catalysts.

Kabachnik, M. I., Chang, Jung-yu, and Tsvetkov, E. N.
UNSATURATED PHOSPHONITE ESTERS. 31 Jan 63 [18]p. 22 refs.
Order from OTS or SLA $1.60 63-16415

Trans. of #Zhurnal Obshchei Khimii (USSR) 1962, v. 32 [no. 10] p. 3351-3360.

DESCRIPTORS: *Esters, *Vinyl radicals, *Phenyl radicals, *Phosphinous acids, *Alkyl radicals, *Phosphites, Chlorides, Polymerization, Chemical reactions, Synthesis (Chemistry), *Phosphorus compounds (Organic).

Esters of vinyl-, ethynyl-, allyl-, and p-vinylphenylphosphonous acids and of vinylphenylphosphinous acid were synthesized by the reaction of organomagnesium compounds with dialkyl chlorophosphites or their analogues. It was shown that the esters of vinylphosphonous acid and some of its analogues are characterized by the general reactions of derivatives of trivalent phosphorus: Arbuzov rearrangement, oxidation, addition of sulfur, hydrolysis, reaction with chlorine. Butyl vinylphosphonite polymerizes under the action of basic agents, azobisisobutyronitrile, and also thermally; vinylphenylphosphinous acid polymerizes spontaneously, in the absence of polymerization initiators. The polymerization reaction evidently takes place as a polyaddition and leads to the formation of heterochain phosphorus-carbon polymers. (Author)

Kato, J. and Others.
SYNTHESIS OF GLUTAMIC ACID FROM α-KETOGLUTARIC ACID. [1963] 2p.
Order from OTS or SLA $1.10 63-16079

Trans. of published Japanese patent 5713/56, filed 20 Apr 53, pub. 14 July 56, by Ajinomoto Ltd.

DESCRIPTORS: *Glutamic acid, *Glutaric acids, Ammonia, Nickel Catalysts, Synthesis (Chemistry).

The invention involves the synthesis of glutamic acid from α-ketoglutaric acid, characterized in that said α-ketoglutaric acid is reduced to pyrrolidonecarboxylic acid in the presence of 30-100 moles ammonia in respect of one mole of said α-ketoglutaric acid, said reduction taking place at elevated pressure and temperature in the presence of a nickel catalyst, said pyrrolidonecarboxylic acid being then hydrolyzed to glutamic acid according to the prior art. (Author)

Kato, J. and others.
SYNTHESIS OF GLUTAMIC ACID FROM α-KETOGLUTARIC ACID. [1963] 2p.
Order from OTS or SLA $1.10 63-16086

Trans. of published Japanese patent 10,218/56, filed 30 Mar 54, pub. 30 Nov 56, by Ajinomoto Ltd.

DESCRIPTORS: *Glutamic acid, *Glutaric acids, Ammonia, Nickel, Catalysts, Sodium compounds, Potassium compounds, Synthesis (Chemistry).

The invention concerns a process for synthesizing glutamic acid characterized in that excessive ammonia in the proportion of thirty to one hundred moles for each mole of α-ketoglutaric acid is added to the sodium salt or potassium salt of said α-ketoglutaric acid, in that in the amination-reduction reaction a Raney nickel W_7 catalyst is employed in which designedly a minute quantity of alumina and alkali is allowed to remain, and in that the said reaction is allowed to take place at a temperature of 15-50°C and at a pressure of 20 kg-cm^2 or less, so as to limit the formation of pyrrolidonecarboxylic acid. (Author)

Kawai, Yoshio.
THE SYNTHESIS OF α-CHLOROGLUTARIC ACID FROM 3-CHLOROPENTENE. [1963] [7]p.
Order from OTS or SLA $1.10 63-16123

Trans. of published Japanese patent 1958-3525, 16-E-64, issued 9 May 58, appl. no. 1955-15682, 9 June 55, by Sanko Corp.

DESCRIPTORS: *Glutaric acids, *Chlorides, *Pentenes, Ozonides, Oxidation, Synthesis (Chemistry).

The patent describes the ozonization of 3-chlorocyclopentene to obtain 3-chlorocyclopentene ozonide and the opening of this ozonide ring in acidic aqueous solutions, below 40°C, with mild oxidation to obtain the final product, α-chloroglutaric acid. (Author)

Khmel'nitskii, L. I., Novikov, S. S., and Lebedev, O. V.
RÉACTION DE N2O4 AVEC LES COMPOSÉS ORGANIQUES. 6ème COMMUNICATION. ARYLNITROSOMÉTHANES ET MÉCANISME DE LA RÉACTION DE N2O4 AVEC DES COMPOSÉS AROMATIQUES RENFERMANT LE GROUPE ACINITRO OU ISONITROSO DANS LA CHAINE LATÉRALE (Reaction of Nitrogen Tetroxide with Organic Compounds. VI. Arylnitrosomethanes and Mechanism of the Reaction between Nitrogen Tetroxide and Aromatic Compounds Containing Acinitro or Nitroso Groups in the Side Chain). 9p. 22 refs. FR-2314.
Order from OTS, ETC or CNRS $0.80 62-26955

Trans. in French of #Akademiya Nauk SSSR Otdelenie Khimicheskikh Nauk. Izvestiya. 1961, [no. 3] p. 477-482.

DESCRIPTORS: *Methanes, *Nitro radicals, *Nitroso radicals, *Phenyl radicals, Nitrogen compounds, Oxides Oxides, Synthesis, (Chemistry)

Khmel'nitzkaya, I. L., Gutorko, L. I. and others.
TECHNOLOGIE DE LA PRÉPARATION DES TOLUENE-DIISOCYANATES (Preparation of Toluene-di-isocyanates). 7p. 6 refs. FR-1956.
Order from OTS, ETC or CNRS $0.80 62-26438

Trans. in French of Khimicheskaya Promyshlennost' (USSR) 1961, no. 1, p. 18-21.

DESCRIPTORS: *Toluenes, *Isocyanic acids, Amines, Preparation.

Kolesnikov, G. S. and Tszen, Khan'-min.
SINTESIS DE COPOLIMEROS INJERTADOS POR INTERACCION DE POLIMETILMETACRILATO CON POLIESTERES DE CADENA HETEROGENEA (Sintez Privitykh Kopolimerov Vzaimodeistviem Polimetilmetakrilata s Geterotsepnymi Slozhnymi Poliefirami) (Synthesis of Grafted Copolymers by the Interaction of Polymethylmethacrylate with Heterogenous Chain Polyesters). 9p. 1 ref. CID: 62-298.
Order from OTS, ETC or CID $0.80 62-29298

Trans. in Spanish of #Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1959, no. 7, p. 1336-1337.

DESCRIPTORS: *Copolymerization, *Esters, Polymers, Acrylic resins, Synthesis (Chemistry), Graft polymers.

Masuda, I.
SYNTHÈSE ET PROPRIÉTÉS DU COMPLEXE DE FER ET DU 1, 2- DICETONEMONOXIME AINSI QUE DE SES DÉRIVES: RAPPORT I. SYNTHÈSE ET STRUCTURE CHIMIQUE DU COMPLEXE BIS - (1, 2-DICETONE-MONOXIMATO)-DIAQUA. FER (II) (Synthesis and Properties of Iron. Complexes of 1, 2-Diketone-Monoximes and its Derivates. I.) 17p. 18 refs. FX-637.
Order from OTS, ETC or CNRS $0.80 62-26900

Trans. in French of Nihon Kagaku Zasshi (Japan) 1961, v. 82, no. 1, p. 120-125.

DESCRIPTORS: *Iron compounds, *Complex compounds, Ketones, Oximes, Synthesis (Chemistry) Chemical analysis.

Masuda, I.
SYNTHÈSE ET STRUCTURE CHIMIQUE DU COMPLEXE BIS- (1, 2-DICÉTOMONOXIMOTO). PYRIDINE. Fe (II). 2-ème Rapport (The Synthesis and the Structure of Bis-, 1, 2-Diketone-Monoximato, Dipyridine-Iron, II). 12p. 9 refs. FX-638.
Order from OTS, ETC or CNRS $0.80 62-26913

Trans. in French of Nihon Kagaku Zasshi (Japan) 1961, v. 82, no. 1, p. 125-128.

DESCRIPTORS: *Complex compounds, Ketones, Oximes, *Pyridines, *Iron compounds, Molecular structure, Synthesis (Chemistry)

Mosin, A. M.
A METHOD OF CALCULATING PROCESSES OF HYDROCARBON SYNTHESIS FROM CARBON MONOXIDE, HYDROGEN AND STEAM. [1963] 5p. 9 refs. NCB Trans. A. 2037/SEH; [DSIR] NLL M. 3909.
Order from OTS or SLA $1.10 63-19934

Trans. of [Akademiya Nauk SSSR]. Institut Goryuchikh Iskopaemykh. Trudy [1961] v. 12, p. 167-170.

DESCRIPTORS: Synthesis (Chemistry), *Hydrocarbons, Carbon compounds, Monoxides, Hydrogen, Steam, Equations.

Novikov, S. S., and Shvekhgeimer, G. A.
NOUVELLE VOIE DE SYNTHÈSE DES β-HALOGÉNONITROALKANES (A New Method for the Synthesis of β-Halonitroalkanes). 12p. 8 refs. FR-1748.
Order from OTS, ETC or CNRS $0.80 62-26520

Trans. in French of #Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1960, no. 11, p. 2026-2031.
Another trans. is available in English from ATS $8.20 as ATS-48N49R [1961] 7p.

DESCRIPTORS: *Chlorine compounds, *Nitro radicals, *Hydrocarbons, Phosphorous compounds, Chlorides, Acetals, Alcohols, Vinyl radicals, Esters.

Otsuki, H. and Funahashi, H.
PREPARATION OF ω-AMINO ACIDS FROM UNSATURATED ALIPHATIC AMINES. [1963] 3p.
Order from OTS or SLA $1.10 63-16074

Trans. of published Japanese patent 4117/56, filed 22 June 53, pub. 2 June 56, by Nippon Ozone Co., Ltd.

DESCRIPTORS: *Amino acids, *Amines, Ozone, Oxidation, Aliphatic compounds.

The invention involves a process for the production of amino acids, characterized in that unsaturated aliphatic amines or salts thereof and lower fatty acid derivatives in the amino group thereof are subjected to ozonization in the presence or absence of a solvent and are split at the site of the double bond and oxidized. (Author)

Petrov, A. A.
CATALYTIC ISOMERIZATION OF HYDROCARBONS, tr. by Paula Schärf. 1963, 162p. 317 refs. PL-480 Comm.
Order from OTS $1.75 63-11137

Trans. of mono. Kataliticheskaya Izomerizatsiya Uglevodorodov, Moscow, 1960 [231p.].

DESCRIPTORS: *Alkenes, *Alkanes, *Cycloalkanes, *Molecular isomerism, Catalysis, Hydrocarbons, *Petroleum, Ziegler catalysts.

Contents:
Isomeric conversion of $C_6 - C_8$ olefins. Reaction mechanism
The isomerization of cycloolefins
The isomerization of $C_{12} - C_{16}$ unsaturated hydrocarbons
The isomerization of $C_6 -- C_8$ paraffins
The isomerization of cycloparaffins
The isomerization of $C_{12} -- C_{16}$ paraffin hydrocarbons
Some problems of the industrial application of polyfunctional catalysts.

Razumova, M. S.
IMPREGNACION CON AGLUTINANTES ORGANICOS DE ANIMAS PREPARADAS POR EL PROCESO CO_2 (Propityvanie Organicheskimi Svyazuyushchimi Sterzhnei, Izgotovlennykh CO_2 - Protsessom) (Organic Agglutinating Agents Impregnation of Cores Prepared by the CO_2 Process). 4p. CID: 62-266.
Order from OTS, ETC or CID $0.80 62-29266

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1960, no. 8, p. 45.

DESCRIPTORS: *Impregnation, Bonding, Organic materials, Processing, *Carbon dioxide.

Rogovin, Z. A. and Vladimirova, T. V.
PRÉPARATION DE L'ESTER PHÉNYLIQUE DE LA CELLULOSE D'UN PLUS HAUT DEGRÉ DE SUBSTITUTION (Synthesis of Phenyl Esters of Cellulose of Higher Degrees of Substitution). 4p. 2 refs.
Order from OTS, ETC or CNRS $0.80 62-26487

Trans. in French of Vsesoyuznoe Khimicheskoe Obshchestvo. Zhurnal (USSR) 1959 [v. 4] no. 2, p. 286.

DESCRIPTORS: *Cellulose esters, Phenols, Sodium compounds, *Phenyl radicals.

Rogovin, Z. A. and Vladimirova, T. V.
SYNTHÈSE D'UN ESTER MIXTE NITRIQUE ET NITROPHÉNYLIQUE DE LA CELLULOSE (Synthesis of Dinitrophenyl Ether of a Cellulose Nitrate). 3p. 1 ref.
Order from OTS, ETC or CNRS $0.80 62-26489

Trans. in French of Vsesoyuznoe Khimicheskoe Obshchestvo. Zhurnal (USSR) 1959 [v. 4] no. 2, p. 254-255.

DESCRIPTORS: *Cellulose esters, *Nitric acid, *Nitrophenols, Synthesis, *Cellulose nitrates.

Roinov, I. V.
PROCÉDÉ POUR L'OBTENTION DU GLYOXAL (Manufacture of Glyoxal). 4p. FR-2356.
Order from OTS, ETC or CNRS $0.80 62-26452

Trans. in French of Russian patent application 1612/4600 34, filed 16 Dec 53.

DESCRIPTORS: *Acetaldehydes, Nitric acid, *Oxidation, Formaldehyde.

Schade, H. and others.
CATALYSTS FOR THE POLYMERISATION OF OLIGOMERS OF Ɛ-CAPROLACTAM. [1963].
Order from TTIS $7.65 TTIS NS-87

Trans. of East German patent 24,307, appl. 30 Jan 59, pub. 28 Nov 62.

DESCRIPTORS: *Catalyst, *Polymerization, *Lactams, Polymers.

Shostakovskii, M. F., Prilezhaeva, E. N., and Karavaeva, V. M.
SYNTHÈSE DE SUBSTANCES SOUFRÉES À PARTIR DES ÉTHERS VINYLIQUES ET DE L'ACÉTYLÈNE. Comm. XVIII. S-VINYL-MERCAPTO-BENZO-THIAZOL (Synthesis of Sulfur Compounds Based on Vinyl Ethers and Acetylene. XVIII. Vinylthiobenzothiazole). 6p. 9 refs.
Order from OTS, ETC or CNRS $0.80 62-26508

Trans. in French of #Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1958, no. 10, p. 1250-1253.

DESCRIPTORS: *Vinyl radicals, Ethers, *Acetylenes, *Sulfides, Thiols, Synthesis (Chemistry)

Shuikin, N. I. and Bel'skii, I. F.
APERTURA DEL ANILLO DE TETRAHIDROFURANO BAJO LA ACCION DE LOS HALOGENUROS DE ALUMINIO (O Raskrytii Tetragidrofuranovogo Tsikla pod Deistviem Galoidnykh Solei Alyuminiya) (Opening of the Tetrahydrofurane Ring under the Activity of Aluminum Halides). 7p. 5 refs. CID: 62-231.
Order from OTS, ETC or CID $0.80 62-29231

Trans. in Spanish of #Akademiya Nauk SSSR, Otdelenie Khimicheskikh Nauk. Izvestiya, 1956, no. 6, p. 747-748.

DESCRIPTORS: *Furan derivatives, *Disproportionation, Halogenation, Halogen compounds, *Aluminum compounds.

Tsepalov, V. F. and Shlyapintokh, V. Ya.
RATE CONSTANTS OF THE ELEMENTARY REACTIONS OF THE OXIDATION OF ETHYLBENZENE BY MOLECULAR OXYGEN. [1963] 9p.
Order from ATS $10.75 ATS-57Q69R

Trans. of Kinetika i Kataliz (USSR) 1962, v. 3, no. 6, p. 870-876.

DESCRIPTORS: Reaction kinetics, Oxidation, *Benzenes, *Ethyl radicals, Oxygen, Molecules.

Tsusumi, S. and Iwata, E.
INFLUENCE DES CATALYSEURS LORS DES ORTHO-META- ET PARA-SUBSTITUTIONS. I er Rapport. NITRATION DU TOLUÈNE (Effects of Catalysts on the Ortho, Meta, and Para Substituting Reactions. I Nitration of Toluene) 5p. 1 ref.
Order from OTS, ETC or CNRS $0.80 62-26910

Trans. in French of Nihon Kagaku Zasshi, (Japan) 1951, v. 72, p. 141-143.

DESCRIPTORS: *Toluenes, *Nitration, Catalysts.

Vansheidt, A. A., Mel'nikova, E. P., and Gladkovskii, G. A.
PREPARATION AND PROPERTIES OF POLYMERS OF THE TYPE OF POLYPHENYLENEMETHYL. PT. 1. SYNTHESIS OF POLYARYLENEMETHYLS BY THE POLYCONDENSATION OF AROMATIC HYDROCARBONS WITH FORMALDEHYDE. [1963] 8p.
Order from ATS $12.50 ATS-61P65R

Trans. of Vysokomolekul[yarnye] Soedin[eniya] (USSR) 1962, v. 4, no. 8, p. 1178-1185.

DESCRIPTORS: *Formaldehyde, Hydrocarbons, *Polymers, Aryl radicals, Condensation reactions.

Zakharkin, L. I., Savina, L. A., and Antipin, L. M.
ADDITION ORDER OF SOME ALUMINUM HYDRIDES TO BUTADIENE-1,3. [1963] 3p. 4 refs.
Order from OTS or SLA $1.10 63-18441

Trans. of #Akad[emiya] Nauk SSSR. Otdel[enie] Khim[icheskikh] Nauk. Izvest[iya] 1962, no. 6, p. 996-998.

DESCRIPTORS: *Aluminum compounds, *Hydrides, *Butadienes, *Lithium compounds, *Ethyl radicals, Addition reactions, *Metalorganic compounds.

Lithium-aluminum hydride and diethylaluminum hydride were found to add to butadiene-1, 3 in position 1, 2 (3, 4) and in position 1, 4 as well. Aluminum hydride adds to butadiene-1, 3 only in the position 1, 2 (3, 4). (Author)

Physical Chemistry

PROCESS FOR PREPARATION OF A SUPPORT FOR HYDROFORMING CATALYSTS. [1962] 10p.
Order from OTS or SLA $1.10 63-10076

Trans. of German published application 1,009,743, filed 20 Apr 55, by Esso Research and Engineering Co., Elizabeth, N. J. (priority: U. S., 21 Apr 54).

DESCRIPTORS: *Hydroforming (Chemical), *Catalysts, Catalysis, Aluminum compounds, Oxides, Chemical reactions.

Agafonov, A. V., Dubinin, M. M. and others.
TRAVAUX ACCOMPLIS EN U.R.S.S. POUR LA PRÉPARATION ET LES APPLICATIONS DE NOUVEAUX ADSORBANTS SÉLECTIFS; LES TAMIS MOLECULAIRES (Preparation and Applications of New Selective Adsorbents: Molecular Sieves). 8p. FR-2357.
Order from OTS, ETC or CNRS $0.80 62-26451

Trans. in French of Khimicheskaya Promyshlennost' (USSR) 1961, no. 7, p. 470-474.
Other translations are available in English from ATS $17.45 as ATS-36P59R, 9p.; from HMSO $0.77 in NLL Translations Bulletin, 1962, v. 4, no. 1.

DESCRIPTORS: Adsorbents, *Organolites, *Particulate filters.

Chudakov, M. I.
SOBRE LA CONDENSACION ACIDA DE LA LIGNINA (O Kislotnoi Kondensatsii Lignina) (On the Acid Condensation of Lignine). 15p. 13 refs. CID: 62-257.
Order from OTS, ETC or CID $0.80 62-29257

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1958, v. 33, no. 7, p. 9-11.

DESCRIPTORS: Condensation reactions, *Lignin.

Crut, G.
STUDY OF THE EQUILIBRIUM OF REDUCTION BY HYDROGEN OF THE CHLORIDES AND BROMIDES OF NICKEL AND COBALT. PT. I. STATIC STUDY OF THE EQUILIBRIUM OF THE SYSTEM $NiCl_2 + H_2 \rightleftharpoons Ni + 2\,HCl$. [1963] [58]p. 6 refs.
Order from SLA $5.60 63-16826

Trans. of Société Chimique [de France Bulletin] 1924, ser. 4, v. 35, p. 550-584.

DESCRIPTORS: Chemical equilibrium, *Cobalt compounds, *Nickel compounds, *Bromides, *Chlorides, *Hydrogen, Reduction.

Fischbeck-Heidelberg, K.
CONCERNING EQUILIBRIA AND RATES OF REACTION IN THE CONVERSION OF SOLIDS (Über Gleichgewichte und Reaktionsgeschwindigkeiten bei Umsetzungen von Festen Stoffen). [1963] 13p. (foreign text included) 12 refs.
Order from SLA $1.60 63-16741

Trans. of Zeitschrift [für] Elektrochemie (Germany) 1938, v. 44, no. 8, p. 513-517.

DESCRIPTORS: Solids, *Crystals, Decomposition, *Chemical equilibrium, *Thermodynamics, *Reaction kinetics, *Catalysis.

Frumkin, A. N.
USE OF SECONDARY ION-ION EMISSION PHENOMENA IN STUDYING HETEROGENEOUS CATALYTIC REACTIONS. [1963] 6p. 4 refs.
Order from OTS or SLA $1.10 AEC-tr-5719

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 2, p. 414-417.

DESCRIPTORS: *Catalysis, *Ammonia, Decomposition, *Platinum catalysts, *Secondary emission, *Ions, Ion bombardment, Electron bombardment, *Mass spectroscopy.

Gorbachev, S. V. and Mindovich, E. Ya.
STUDY OF THE EQUILIBRIA OF DISTRIBUTION OF PICRIC ACID BETWEEN WATER AND NITROBENZENE, I, II, tr. by V. Beak. Nov 60 [26]p. 6 refs. NP-tr-551; [DSIR NLL] M. 3051.
Order from OTS or SLA $2.60 63-23310

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1953, v. 27, no. 12, p. 1837-1847.
Translations in French are available from OTS or SLA (p. 1837-1841) $1.60 as 61-19600, CEA-tr-R1106, 13 Dec 60 [11]p. and (p. 1842-1847) $1.10 as 61-23754, CEA-tr-R751, 27 Oct 59 [9]p.

DESCRIPTORS: *Chemical equilibrium, *Picric acid, *Water, *Nitrobenzenes, Benzenes.

Hackspill, L. and Pinck, J. J.
THE ACTION OF IRON AND NICKEL UPON ALCALINE SALTS (SALTS OF ALKALIES). [1963] 24p. (figs. omitted) 23 refs.
Order from SLA $2.60 63-16166

Trans. of Société Chimique [de France. Bulletin] 1931, ser. 4, v. 49, p. 54-70.

DESCRIPTORS: *Salts, *Alkali metals, *Nickel compounds, *Iron compounds, Chemical reactions.

Hertz, H. G. and Spalthoff, W.
ON THE CHEMICAL SHIFT OF THE PROTON RESONANCES OF WATER IN ELECTROLYTE SOLUTIONS. [1963, 55]p. 48 refs.
Order from SLA $5.60 63-18091

Trans. of Zeitschrift für Elektrochemie (West Germany) 1959, v. 63, no. 9/10, p. 1096-1110.

DESCRIPTORS: *Electrolytes, Solutions, Water, *Chemical bonds, *Protons, *Nuclear resonance, *Resonance absorption.

The inclusion of a molecule in a hydrogen bridge bond entails a reduction of the screening of the proton located in the polar group. This rule is corroborated by a compilation of the data for systems containing hydrogen bridge bonds obtained by the NMR-method. It is of interest to determine whether this rule is also applicable to electrolyte solutions. A simple NMR spectrometer having a high resolving power ($\Delta H/H = 4.10^{-8}$) is described. The measuring results of the shift variations due to the solution of strong electrolytes in water are given. The most unusual characteristic features of these results are discussed, although a detailed interpretation of the phenomena is not possible at the present time. (Author)

Kemula, W., Czornodola, J., and Kopniak, Z.
THE INFLUENCE OF HYDROGEN ON THE SENSITIZED PHOTOCHEMICAL DECOMPOSITION OF METHANE. [1963] 2p.
Order from SLA $1.10 63-16800

Partial trans. (p. 623-624, German summary) of Roczniki Chemii (Poland) 1938, v. 18, p. 614-624.

DESCRIPTORS: *Hydrogen, *Methanes, *Photochemistry, Decomposition, Mercury lamps, Vapors.

Khitrin, L. N., ed.
COMBUSTION IN TURBULENT FLOW, tr. by A. Wald. 1963, 149p. 59 refs. PL-480 NASA; NASA TT F-97.
Order from OTS $1.50 62-11035

Trans. of mono. Gorenie v Turbulentnom Potoke, Moscow, 1959 [168p.].
##An unedited rough draft trans. of p. 5-50 and 81-87 is available from OTS or SLA $7.60 as 62-32680, FTD-TT-61-181 20 June 62 [72]p.

DESCRIPTORS: *Combustion, *Turbulence, *Flame propagation, Flames, Ignition, Temperature, Pressure, Velocity, Mathematical analysis, Theory, Gas flow, Measurement, Combustion chamber gases, Fuels, Internal combustion engines.

Contents:
##Calculation of flame propagation in a turbulent flow, by E. S. Shchetinkov
Experimental investigation of the combustion zone in a turbulent flame, by K. P. Vlasov (supplement to Shchetinkov's report)
A model of combustion in turbulent flow, by S. M. Kogarko
The experimental basis of the theory of turbulent combustion, by A. S. Sokolik
The optical diffusion method of measuring turbulence in air flows and flames, by A. G. Prudnikov
Studies of turbulent gas flow in piston engines, by E. S. Semenov.

Kobashi, Yusuke and Watanabe, Mihoko.
THERMAL DECOMPOSITION OF TOBACCO ALKALOIDS. PT. X. TRANSFER OF TOBACCO ALKALOIDS INTO SMOKE FROM NORNICOTINE TYPE CIGARETTES. [1962] 11p.
Order from K-H $13.75 K-H-12240 c

Trans. of [Nihon] Nogei-Kagakkai Shi (Japan) 1962, v. 36, no. 7, p. 589-592.

DESCRIPTORS: *Cigarettes, *Nicotine, *Smokes, Alkaloids, Tobacco, Chemical reactions, Pyrolysis.

Kruglikov, S. S., Kudryavtsev, N. T. and others.
INVESTIGATION OF ELECTROLYTES FOR LEVELLING NICKEL-PLATING (Issledovanie Elektrolitov dlya Vyravnivayushchego Nikelirovaniya). June 62 [15]p. (foreign text included) 7 refs. [DSIR] NLL M. 3952.
Order from OTS or SLA $1.60 63-19877

Trans. of #Zhur[nal] Prikl[adnoi] Khim[ii] (USSR) 1962, v. 35, no. 4, p. 781-786.

DESCRIPTORS: *Plating, *Nickel, Precision finishing, *Electrolytes.

Experiments with pulsating current demonstrated that the decisive factor in levelling is the relative rate of diffusion of the addition towards various zones of the cathode surface. It was established that the maximum levelling power of nickel electrolyte saturated with coumarin corresponds to the temperature range 20-30°C. Conditions were developed, which ensure that high levelling power of the electrolyte is maintained during prolonged electrolysis (self-regulating electrolyte). It was shown that the use of mixtures of more than one levelling agent is an effective means of raising the levelling power electrolytes in a wide range of electrolysis conditions. One advantage of electrolytes of high levelling power is the low porosity of the deposits produced from them. (Author)

Kryukov, P. A. and Zhuchkova, A. A.
PHASE POTENTIALS ARISING WHEN SOLUTIONS ARE PRESSED FROM ION-EXCHANGERS. [1963] 2p.
Order from ATS $3.00 ATS-22Q67R

Trans. of #Kolloidn[yi] Zh[urnal] (USSR) 1962, v. 24, no. 3, p. 355-356.

DESCRIPTORS: *Ion exchange, Pressure, Solutions, Phase studies.

Kuz'minykh, I. N. and Babuchkina, M. D.
EQUILIBRIO ENTRE EL ANHIDRIDO SULFUROSO Y LAS DISOLUCIONES BISULFICITAS (Ravnovesie Mezhdu Sernistym Gazom i Bisul'fitnymi Rastvorami) (Equilibrium Between Sulfur Dioxide and Bisulphite Solutions). 19p. 13 refs. CID: 62-218.
Order from OTS, ETC or CID $0.80 62-29218

Trans. in Spanish of Bumazhnaya Promyshlennost (USSR) 1955, v. 30, no. 8, p. 5-9.

DESCRIPTORS: *Sulfur compounds, Dioxides, *Sulfites, *Chemical equilibrium, Solutions.

Lange, E.
FUNDAMENTAL ENERGETIC PRINCIPLES OF CORROSION. [1963] 24p. 27 refs.
Order from SLA $2.60 63-18033

Trans. of Schweizer Archiv [fur Angewandte Wissenschaft und Technik] 1952, v. 18, Dec, p. 395-404.

DESCRIPTORS: *Corrosion, Electrochemistry, Chemical reactions, Metals, Oxidation, Electrical conductance.

Topics include: Object of corrosion research, particularly as far as fundamental energetic principles are concerned; the double nature of each ion as a chemical and electric individual in a single phase; electro chemical potential and real potential; importance of electrochemical potential drop; energetics of the "single" electrode with 1 electrode-reaction; energetics of a "double" electrode; local current; outer current; energetics of a particularly simple corrosion system, of an oxidation system metal (metal oxide) oxygen as a double electrode; the energetics and kinetics of a wet corrosion system with practically pure electronic conductivity and with practically pure ionic conductivity resp. of the intermediate layer; and more complicated corrosion cases.

Lipin, A. I.
CONTACT PRECIPITATION OF CERTAIN METALS ON THE SURFACE OF ALUMINIUM ALLOYS (Kontaktnoe Vydelenie Nekotorykh Metallov na Poverkhnosti Alyuminievykh Splavov). Aug 62 [15]p. (foreign text included) 4 refs. [DSIR] NLL M. 3950.
Order from OTS or SLA $1.60 63-19879

Trans. of mono. Trudy Chetvertogo Soveshchaniya po Elektrokhimii (Conference on Electrochemistry (no. 4)) Moscow, 1-6 Oct 56, Moscow, 1959, p. 486-492.

DESCRIPTORS: *Aluminum alloys, Surfaces, Metals, Chemical precipitation, Electrochemistry, *Conferences.

Matsuda, Hiroaki.
CONTRIBUTION TO THE THEORY OF ALTERNATING CURRENT POLAROGRAPHY, tr. by Senta Pugh. Feb 63 [41]p. 24 refs.
Order from OTS or SLA $4.60 UCRL Trans-932

Trans. of Zeitschrift fur Elektrochemie (West Germany) 1958, v. 62, p. 977-989.

DESCRIPTORS: *Alternating current, *Electric current, *Polarographic analysis, Electrochemistry.

A theoretical analysis of A. C. polarography is given. The theory is subject to the following conditions: (1) The electrode reaction contains only one potential-determining process, and the transport of the substances participating in it occurs exclusively through diffusion aided by the convection resulting from the growth of the drop. (2) The amplitude of the superimposed A. C. potential is so small that the non-linearity of the electrode characteristics is negligible over its range. Subject to these conditions, general formulae are derived from the value of the A. C. component, both instantaneously and averaged over the drop time. The formulae thus derived are then applied to the two cases where a square-wave and a sinusoidal A. C. potential is superimposed. The two limiting cases of the reversible and the irreversible discharge reaction are treated in greater detail; this yields explicit expressions for the peak current intensity, the peak potential and the width at half of maximum intensity. Finally, the condenser current is calculated.

Nikolaev, A. V. and Yakovlev, I. I.
STUDY OF THE SYSTEM URANYL NITRATE-WATER-NITRIC ACID-TRIBUTYL PHOSPHATE IN THE REGION OF PHASE SEPARATION, tr. by W. Davis, Jr. [1963] [6]p. 3 refs.
Order from OTS or SLA $1.10 AEC-tr-5766

Trans. of Akademy Nauk SSSR. Doklady, 1962, v. 145, no. 5, p. 1064-[1067].

DESCRIPTORS: *Uranyl radicals, Nitrates, Water, *Nitric acid, *Phosphates, Butyl radicals, *Sequestering agents, *Phase studies, Thermodynamics.

Peshkin, M. A.
THE EFFECT OF TEMPERATURE ON THE LOWER CONCENTRATION LIMIT OF FLAME PROPAGATION (O Vliyanii Temperatury na Nizhnii Kontsentratsionnyi Predel Rasprostraneniya Plameni) tr. by L. Meyer. Mar 62 [3]p. 2 refs. S. M. R. E. Trans. no. 4673; [DSIR] NLL M. 3869.
Order from OTS or SLA $1.10 63-19883

Trans. of Zh[urnal] Fiz[icheskoi] Khim[ii] (USSR) 1954, v. 28 [no. 3] p. 433-434.

DESCRIPTORS: *Flame propagation, Temperature, Thermochemistry, Carbon compounds, Oxides, Ethylenes, Methanes, Pentanes, Gases.

Popova, N. I. and Mil'man, F. A.
KINETICS OF THE OXIDATION OF ISOBUTYLENE OVER COPPER CATALYSTS. [1963] [13]p. 11 refs.
Order from CTS(Chem) $4.00 CTS(Chem)-337
subsequent copies $0.75/ea.

Trans. of Akad[emiya] Nauk SSSR. Sibirsk[oe] Otd[elenie]. Izvest[iya] 1962, no. 11, p. 59-65.

DESCRIPTORS: *Butenes, Oxidation, Reaction kinetics, *Copper catalysts, Methyl radicals, *Acroleins, Synthesis (Chemistry), Carbon dioxide.

Pospekhov, D. A.
STABILITY OF METAL CARBONYLS. [1963] 7p. (refs. omitted).
Order from OTS or SLA $1.10 63-16807

Trans. in manuscript of Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1947, v. 21 [no. 1] p. 11-13. Another trans. is available in Dutch from OTS or ETC $1.55 as 61-17756, MTWL-91, 6p.

DESCRIPTORS: *Metallic compounds, *Carbonyl radicals, Stability, Copper compounds, Chemical bonds.

Reerink, H.
MICELLE FORMATION SOLUBILIZATION IN NON-POLAR SYSTEMS. Paper given at the Symposium on Solubilization in Emulsions, Utrecht, 17-18 Apr 58. 5 June 62, 24p. 37 refs.
Order from SLA $2.60 63-10499

Trans. of Chem[isch] Weekblad (Netherlands) 1958, v. 54, p. 721-726.

DESCRIPTORS: *Soaps, *Solubility, *Colloids, Solvents.

Reinders, W. and Vries, R. W. P. de.
CONTRIBUTIONS TO THE SILVER NUCLEUS THEORY OF THE LATENT IMAGE; THE CRITICAL SIZE OF THE NUCLEUS. [1963] 16p. (figs. omitted) 11 refs.
Order from SLA $1.60 63-18043

Trans. of Rec[ueil des] Trav[aux] Chim[iques des Pays-Bas] (Netherlands) 1937, v. 56, no. 9/10, p. 985-999.

DESCRIPTORS: *Silver, Nuclei, Theory, Photographic images, *Photochemistry, Photographic emulsions.

Samec, M.
ABOUT THE IMPROVEMENT OF STARCH. [1963] 14p.
Available from SLA on loan 63-16627

Trans. of Öst[erreichische] Chem[iker]-Zeit[ung] (Austria) 1955, v. 56, p. 66-71.

DESCRIPTORS: *Starches, *Food, *Chemical bonds, *Molecular association, Viscosity, Physical properties, Gels.

After an introductory discussion of today's knowledge about the structure of starch and about the mechanism of the micelle formation, several modified starch preparations are discussed, such as swell starch, starch with increased viscosity, pudding starch, thin cooking starch, micelle starch and soluble starch. The molecular changes which permit to transform the qualities of the starch in adaptation to the momentary requirements in a useful manner are also discussed. (Author)

Semenov, N. N.
BASIC QUESTIONS OF THE CONTEMPORARY THEORY OF HOMOGENEOUS COMBUSTION IN UNIFORM GASEOUS SYSTEMS. [1963] 36p. 30 refs.
Order from OTS or SLA $3.60 63-14511

Trans. of [Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya] 1953, no. 5, p. 708-729.
A partial trans. (p. 708-709) is available from LC or SLA mi$1.80, ph$1.80 as 60-23012, F-TS-8192 [1959] [3]p.

DESCRIPTORS: *Gases, *Combustion, Theory, Reaction kinetics, *Ignition, *Chain reactions, *Flame propagation, Velocity, Flammability, *Detonation, Shock waves.

Slygin, A. and Frumkin, A.
PLATINUM ELECTRODES. 1. THE CAPACITY OF PLATINISED PLATINUM IN VARIOUS ELECTROLYTES AND THE ELECTROMOTIVE BEHAVIOUR OF ADSORBED HYDROGEN (Über die Platinelektrode) tr. by F. Hudswell. Jan 61 [39]p. 12 refs. NP-tr-597.
Order from OTS or SLA $3.60 63-23291

Trans. of Acta Physicochimica U. R. S. S., 1935, v. 3, no. 6, p. 791-818.

DESCRIPTORS: *Electrodes, *Platinum, Electrolytes, Hydrogen, Adsorption (Physical).

Slygin, A., Frumkin, A., and Medvedovskii, W.
PLATINUM ELECTRODES. II. THE ADSORPTIVE PROPERTIES OF THE PLATINUM ELECTRODE (Über die Platinelektrode) tr. by F. Hudswell. Jan 61 [27]p. 10 refs. NP-tr-598.
Order from OTS or SLA $2.60 63-23290

Trans. of Acta Physicochimica U. R. S. S., 1936, v. 4, no. 6, p. 911-928.

DESCRIPTORS: *Electrodes, *Platinum, Adsorption.

See also 63-23291

Tal'roze, V. L. and Frankevich, E. L.
THE IMPULSE METHOD FOR DETERMINING THE RATE CONSTANTS OF ELEMENTARY ION-MOLECULE REACTIONS (Impul'snyi Metod Opredeleniya Konstant Skorostei Elementarnykh Ionno-Molekuliarnykh Protsessov) tr. by Robert Magruder. Nov 62 [18]p. 15 refs. AmMetSoc-T-R-398.
Order from OTS or SLA $1.60 63-19729

Trans. of #Zhurnal Fizicheskoi Khimii (USSR) 1960, v. 34, no. 12, p. 2709-2718.

DESCRIPTORS: *Ions, *Molecules, Chemical reactions, Methanes, Methyl radicals, Water, Hydroxyl radicals, *Electron bombardment, *Nuclear cross sections, Reaction kinetics, Measurement, Mass spectroscopy, Ionization chambers.

An impulse method was worked out for measuring the rate constants of elementary ion-molecule reactions for thermal energies. The principal advantages of this method were examined as against the method used today for determining the effective cross sections of such reactions. The rate constants of the reactions $CH_4 + CH_4^+ \rightarrow CH_5 + CH_3$ ($k_{T_3} = 11.6 \cdot 10^{-10}$ cm^3 molec.$^{-1}$ sec.$^{-1}$) and $H_2O + H_2O^+ \rightarrow H_3O^+ + OH$ ($k_T = 8.5 \cdot 10^{-10}$ cm^3 molec.$^{-1}$) were measured at temperatures 370 ± 20 and 410° K respectively and with the energy of the ionizing electrons 50 e V. (Author)

Tammann, G. and Sworykin, A.
THE REDUCTION OF THE ALKALI CARBONATES BY COAL AND THE ACTION OF THE ALKALI METALS UPON COAL (CARBON). [1963] 3p. 3 refs.
Order from SLA $1.10 63-16172

Trans. of German language article (paper) from unidentified source, 1928, p. 218-220.

DESCRIPTORS: *Reduction (Chemistry), *Carbonates, *Coal, Alkali metals, *Potassium compounds, *Sodium compounds, Thermochemistry.

Terenin, A. N.
OPTICAL STUDIES OF ACTIVATED ABSORPTION (Opticheskie Issledovaniya Aktivirovannoi Adsorbtsii). [1962] 15p. 15 refs.
Order from OTS or SLA $1.60 AEC-tr-5227

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1940, v. 14 [no. 9/10] p. 1362-1369.

DESCRIPTORS: *Absorption spectrum, Molecules, Adsorption, Deformation, Optical analysis, Catalysts, Free radicals, Photochemistry.

Tsirel'nikov, V. I., Komissarova, L. I., and Spitsyn, Vikt. I.
STUDY OF THE VAPOR DENSITY OF HAFNIUM TETRACHLORIDE AT HIGH TEMPERATURES, tr. by Helen Chick and N. H. Krikorian. 14 Mar 63 [7]p. 6 refs.
Order from OTS or SLA $1.10 AEC-tr-5730

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 145, no. 5, p. 1081-1084.

DESCRIPTORS: Temperature, *Chlorides, *Hafnium compounds, Density, *Zirconium compounds, Sublimation.

Tverdovskii, I. P. and Molchanov, V. S.
DECOMPOSITION POTENTIALS OF FUSED ELECTROLYTES [Potentsialy Razlozheniya Rasplavlennykh Elektrolitov]. [1963] 26p. 26 refs.
Available from SLA on loan 63-18298

Trans. of [Zhurnal Fizicheskoi Khimii] (USSR) 1937, v. 9 [no. 2] p. 239-251.
Another trans. is available from SLA as RT-954, 22p.

DESCRIPTORS: *Electrolytes, *Decomposition, *Fused materials, Electrolysis, Halides, Alkali metal compounds, Alkaline earth compounds.

Vargaftik, M. N., Moiseev, I. I., and Syrkin, Ya. K.
KINETICS OF CYCLOHEXENE OXIDATION WITH PALLADIUM SALTS IN AQUEOUS SOLUTION. [1963] 6p. 4 refs.
Order from OTS or SLA $1.10 63-18433

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 139, no. 6, p. 1396-1399.
Another trans. is available from OTS or SLA $1.10 as 62-10682, 14 Nov 61 [7]p.

DESCRIPTORS: *Cyclohexenes, Oxidation, *Reaction kinetics, *Cyclohexanones, *Palladium catalysts, Chlorides, Quinones, Complex compounds.

For abstract see Technical Translations 7: 1010, 1962.

Varlamov, M. L., Krichevskaya, E. L. and others.
LA COAGULATION ACOUSTIQUE D'UN BROUILLARD D'ACIDE SULFURIQUE (Acoustic Coagulation of Sulfuric Acid Mist). 11p. (English trans. included). 27 refs. FR-1526.
Order from OTS, ETC or CNRS $0.80 62-26473

Trans. in French of #Zhurnal Prikladnoi Khimii (USSR) 1960, v. 33, no. 1, p. 14-20.

DESCRIPTORS: *Sulfuric acid, *Aerosols, Acoustics, Gases, Jets.

Vasil'ev, Yu. B. and Bagotskii, V. S.
ELECTROOXIDATION OF FORMIC ACID AND ITS SALTS ON A ROTATING PLATINUM ELECTRODE. [1963] 5p.
Order from ATS $7.25 ATS-82Q70R

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] [1963] v. 148, no. 1, p. 132-135.

DESCRIPTORS: *Electrochemistry, *Formic acids, Formates, Oxidation, *Platinum electrodes.

EARTH SCIENCES

PHYSICAL GEOGRAPHY IN COMMUNIST CHINA: SELECTED TRANSLATIONS. 29 July 63, 129p. 49 refs. JPRS: 20388.
Order from OTS $2.75 63-31403

Trans. of Ti Li Hsüeh Pao (Chinese People's Republic) 1962, v. 28, no. 4, p. 257-305, 320-334.

DESCRIPTORS: *Geography, *China, *Terrain, Rivers, Geochemistry, Transportation, Roads, Inland waterways.

Contents:
The geomorphological development of the O Erh Ch'i Ssu river and the Wu Lun Ku river in Sinkiang (including resume from Russian language) by Yen Ch'in-shang and Hsia Hsun-ch'eng
General discussion of geomorphology in Leng Lake Region in the northwestern part of Tsaidam Basin (including resume from Russian Language) by Fan Hsi-p'eng
Important characteristics of biogeochemicals in the principal landscape-types of Kwangtung province (including resume from Russian language) by T'ang Yun-luan and others
Land and water routes between the Yellow Wei and the Yangtze Han river systems in China's history, by Huang Sheng-chang.

Skibko, N. E. and Bondarenko, A. L.
RECORDERS OF LOW FREQUENCY VARIATIONS IN SEA LEVEL AS BAND FILTERS. [1962] [5]p. 11 refs. [DSIR] NLL M.8998.
Order from OTS or SLA $1.10 63-15221

Trans. of Okeanologiya (USSR) 1962, v. 2, no. 2, p. 251-256.

DESCRIPTORS: *Recording systems, *Manometers, Low frequency, Band-pass filters, Design, Vibration, Harmonic analysis, *Oceanology, *Filters (Electromagnetic wave).

An apparatus for recording long-period variations in the level of the sea is described. Two fundamental problems encountered in the designing of this apparatus are: (1) to fix the capillary resistance that the frequencies of the spectrum which are to be studied (forcing vibrations produces a difference in pressure in chamber A_1 and A_2 of maximum amplitude in comparison with vibrations of different frequencies, (2) to determine what pressure differences between the chambers can occur when the parameters of the variations (period and height) of water pressure in the sea. These problems are solved by two methods: experimental and mathematical. The experimental method consists fundamentally in taking differences in the pressure of the oil in the oil bellows for different parameters of the forcing vibrations, the dimensions of the capillaries and the depth of immersion of the apparatus. The results are correlated in the form of tables and graphs.

Climatology and Meteorology

Belinskii, N. A. and Glagoleva, M. G.
INVESTIGATION OF THE POSSIBILITY OF EXTRAPOLATION OF THE FIELDS OF ANOMALIES OF CYCLONIC AND ANTI-CYCLONIC ACTIVITY. [1963] [18]p. (figs. tables omitted) 16 refs. Trans. no. 116(M); [DSIR] NLL M.3749.
Order from OTS or SLA $1.60 63-19808

Unedited trans. of Tsent[ral'nyi] Inst[itut] Prog[nozov]. Trudy (USSR) 1959, v. 91, p. 3-17.

DESCRIPTORS: *Cyclones, *Anticyclones, *Weather forecasting, Mathematical prediction, Meteorology.

Burov, M. I.
SILVER CLOUDS AND PHOTOGRAMMETRIC METHODS OF DETERMINING THEIR ALTITUDE (Serebristye Oblaka i Fotogrammetricheskii Metod Opredeleniya Ikh Vysot) tr. by G. Belkov. 1963, 27p. 13 refs. NRCC Technical Trans. 1078.
Order from NRCC $1.50 NRCC C-4472

Trans. of Mosk[ovskii] Inst[itut] Inzh[enerov] Geod[ezii] Aerofoto[s"emki] i Kartog[rafii]. Tr[udy] (USSR) 1960, v. 39, p. 89-110.

DESCRIPTORS: *Clouds, *Height finding, *Photogrammetry, Aerial cameras, Phototheodolites, Classification, Physical properties, Meteorology.

Drogaitsev, D. A.
A METHOD OF MAKING LONG-RANGE FORECASTS OF PERCIPITATION FOR THE PERIOD FROM APRIL TO JUNE. [1963] [11]p. (figs. tables omitted) 2 refs. Trans. no. 117; [DSIR] NLL M.3808.
Order from OTS or SLA $1.60 63-19755

Unedited trans. of Meteorologiya i Gidrologiya (USSR) 1960, no. 9, p. [2]-10.
Another trans. is available from OTS or SLA $2.60 as 61-11582, JPRS-6352, 2 Dec 59, 22p.

DESCRIPTORS: *Weather forecasting, *Atmospheric precipitation, Atmospheric motion, Cyclones, Anticyclones, Meteorology.

Du, Sin-juan'.
A CONTRIBUTION TO THE HYDRODYNAMICAL THEORY OF FRONTAL CYCLOGENESIS. [1963] 10p. (figs. formulae omitted) 7 refs. Trans. no. 124(M); DSIR NLL M. 3709.
Order from OTS or SLA $1.10 63-19841

Unedited trans. of Glav[naya] Geofiz[icheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1959, no. 99[161] p. 105-111.

DESCRIPTORS: *Air mass analysis, *Weather forecasting, *Vortices, Numerical analysis, Meteorology, *Cyclones.

Egorova, V. I.
ON THE QUESTION OF THE PERIODICITY OF BASIC FORMS OF THE ATMOSPHERIC CIRCULATION. [1963] [24]p. (figs. tables omitted) 23 refs. Trans. no. 113(M); [DSIR] NLL M. 3754.
Order from OTS or SLA $2.60 63-19803

Unedited trans. of Glav[naya] Geofiz[icheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1959, v. 87[149] p. 66-85.

DESCRIPTORS: *Atmospheric motion, Solar radiation, Earth, Rotation, Cyclones, Anticyclones, Climatology, Meteorology.

Gaevskii, V. L.
THE ALBEDO OF LARGE TERRITORIES. 29 May 62 [19]p. (figs. tables omitted) 19 refs. Trans. no. 141(M); [DSIR] NLL M. 3882.
Order from OTS or SLA $1.60 63-19956

Unedited trans. of Glav[naya] Geofiz[icheskaya] Observ[atoriya] Leningrad. Trudy (USSR) 1961, no. 109[171] p. 61-75.

DESCRIPTORS: Albedo (Astronomy), *Solar radiation, Reflection, Earth, Surface properties, Airborne, Radiation measurement systems, Measurement.

The results of aircraft measurements of albedo are examined and the albedo given for geographical zones of the U. S. S. R.

Gandin, L. S. and Boltenkov, V. P.
THE CONSTRUCTION OF CHARTS USING AN ELECTRONIC COMPUTER. [1963] [18]p. (figs. eng. refs. omitted) 3 refs. Trans. no. 125(M); [DSIR] NLL M. 3813.
Order from OTS or SLA $1.60 63-19750

Unedited trans. of Glav[naya Geofiz[icheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1960, no. 114[176] p. 90-103.

DESCRIPTORS: *Computers, *Meteorological charts, *Weather forecasting, Meteorology.

The paper deals with the question of using an electronic computer for the construction of the fields of the isolines of meteorological elements. A programme is worked out and tested for finding the co-ordinates of the points on the isolines using the computer "Ural I". The results of the test indicate that the accuracy of construction of the isolines by the method suggested is sufficiently high. The time spent by the machine in the construction of the charts is considerably less than that necessary for the objective analysis of the corresponding fields. (Author)

Hubschen, L.
INFLUENCES OF ATMOSPHERIC PRESSURE AND TEMPERATURE ON THE RELATIVE HUMIDITY. [1962] 5p.
Order from K-H $6.25 K-H-12539 e

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 7, p. 305-306.

DESCRIPTORS: *Humidity, *Barometric pressure, *Atmospheric temperature.

Khrabrov, Yu. B.
DISCUSSION OF THE MEAN MONTHLY TEMPERATURE AND ITS PREDICTION. [1963] [11]p. (figs. [Eng.] refs omitted) 8 refs. Trans. no. 121(M); [DSIR] NLL M. 3816.
Order from OTS or SLA $1.60 63-19747

Unedited trans. of Tsent[ralnyi] Inst[itut] Prog[nozov]. Trudy (USSR) 1960, v. 92, p. 3-12.

DESCRIPTORS: *Weather forecasting, *Atmospheric temperature, Atmospheric motion, Meteorology.

Mashkovich, S. A. and Gromova, L. G.
SOME RESULTS OF NUMERICALLY PREDICTING THE PRESSURE FIELD USING THE ELECTRONIC COMPUTER "STRELA". 23 Mar 62 [6]p. (tables omitted), 2 refs. [DSIR] NLL M. 3845.
Order from OTS or SLA $1.10 63-19902

Unedited trans. of Tsent[ral'nyi] Inst[itut] Progn[ozov]. Trudy (USSR) 1960, v. 106, p. 61-64.

DESCRIPTORS: *Weather forecasting, *Barometric pressure, Atmosphere models, Computers, Numerical analysis, Meteorology, Mathematical prediction.

Orlova, L. S.
EXPERIMENTAL WORK OF THE COMPUTING GROUP IN THE LENINGRAD WEATHER BUREAU IN RELATION TO PREDICTING THE PRESSURE FIELD AND THE MOVEMENT OF DEPRESSIONS. 2 Apr 62 [10]p. (figs. tables omitted) 7 refs. [DSIR] NLL M. 3842.
Order from OTS or SLA $1.10 63-19905

Unedited trans. of Tsent[ral'nyi] Inst[itut] Progn[ozov]. Trudy (USSR) 1960, v. 106, p. 123-131.

DESCRIPTORS: *Weather forecasting, *Barometric pressure, Numerical methods and procedures, Numerical analysis, Meteorology.

Ped, D. A.
A METHOD OF FORECASTING AIR TEMPERATURE FOR A NATURAL SYNOPTIC PERIOD IN JANUARY. [1963] 29p. (figs. tables formulae omitted) 12 refs. Trans. no. 98; [DSIR] NLL M. 3712.
Order from OTS or SLA $2.60 63-19838

Unedited trans. of Tsent[ral'nyi] Inst[itut] Prog[nozov]. Trudy 1959, v. 87, p. 3-25.

DESCRIPTORS: *Weather forecasting, *Atmospheric temperature, Statistical processes, Atmospheric motion, Meteorology.

Pogosyan, Kh. P.
JET STREAMS OVER THE REGION OF THE ARMENIAN UPLANDS. 12 May 60, 16p. (figs. tables omitted) 13 refs. Trans. no. 62; [DSIR] NLL M. 3879.
Order from OTS or SLA $1.60 63-19958

Unedited trans. of Ak[ademiya] Nauk [Armyanskoi] SSR, Erevan. Izv[estiya]. Geol[ogicheskie] i Geogr[aficheskie] Nauki, 1958 [v. 11] no. 2 [p. 55-70].

DESCRIPTORS: *Jet streams (Meteorology), Atmospheric motion, Wind, Troposphere, Tropopause, Velocity, Temperature, Climatology, Meteorology.

Pokrovskaya, T. V.
ON THE TWO-YEAR CYCLE IN THE VARIATION OF METEOROLOGICAL PHENOMENA. 10 Jan 61 [17]p. (figs. tables omitted) 12 refs. Trans. no. 90; [DSIR] NLL M. 3829.
Order from OTS or SLA $1.60 63-19917

Unedited trans. of Glav[naya] Geofiz[icheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1959, v. 89[151] p. [8-29.

DESCRIPTORS: *Westher forecasting, *Climatology, *Periodic variations, Atmospheric temperature, Atmospheric motion, Meteorology, *Meteorological phenomena, Marine meteorology.

The paper deals with one of the non-synchronous relationships in hydrometeorological phenomena - the two-year cycle in the values of temperature and also in the characteristics of atmospheric circulation, which has been discovered in some regions to be very clearly marked in individual months. The question is considered on the basis of data since accumulated over a wide field: a series of observations on the temperature in Leningrad up to 1957, the characteristics of atmospheric circulation according to Vangengejm and Vitels also up to 1957 and other data. It has been shown that a two-year cycle does exist at the present time; it is valuable as a forecasting indication for certain regions in certain months. It should be considered as an auto-oscillatory process in the earth's atmosphere. Further, more detailed consideration of the geographical localization of similar manifestations should help to reveal the importance of this process and to extend the use of conclusions from it in forecasting. (Author)

Rakipova, L. R.
ON THE EFFECT OF SOLAR ACTIVITY ON THE GENERAL CIRCULATION OF THE ATMOSPHERE. [1963] [9]p. (tables omitted) 11 refs. Trans. no. 112(M); [DSIR] NLL M. 3753.
Order from OTS or SLA $1.10 63-19804

Unedited trans. of Glav[naya] Goef[izicheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1959, v. 87[149] p. 40-45.

DESCRIPTORS: *Solar radiation, *Atmospheric motion, Cyclones, Anticyclones, Wind, Meteorology, Astrophysics.

Rakipova, L. R.
THE TRANSFER OF MASS, HEAT AND MOISTURE ACROSS THE EQUATOR. [1963] [13]p. (figs. tables omitted) 11 refs. Trans. no. 126(M); [DSIR] NLL M. 3814.
Order from OTS or SLA $1.60 63-19749

Unedited trans. of Glav[naya] Geofiz[icheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1960, v. 114[176] p. 104-113.

DESCRIPTORS: Atmospheric motion, Heat transfer, Mass transfer, Moisture, *Climatology, Meteorology.

Quantitative characteristics are given of the flux of mass, heat and moisture across the equator, obtained from observational data during the International Geophysical Year (IGY). It is shown that the flux of mass and of heat across the whole of the equator is little different from the significantly large flux across part of it. The flux of heat across the eastern half of the equator is always greater than that across the western half; a circulation with a well marked seasonal variation exists between eastern and western hemispheres. (Author)

Smeter, S. M.
ON WIND FLOW OVER MOUNTAIN OBSTACLES, tr. by R. F. Zobel. [1963] 13p. (figs. tables omitted). DSIR NLL M. 3713.
Order from OTS or SLA $1.60 63-19836

Unedited trans. of [Tsentral'naya Aerologicheskaya Observatoriya]. Trudy (USSR) 1958, no. 24, p. 16-31.

DESCRIPTORS: *Wind, *Mountains, *Atomospheric motion, Aircraft, Flight paths, Meteorology.

Some figures are presented on the development of turbulence as assessed from the intensity of bumpiness experienced by aircraft flying over mountains. Main attention is directed to turbulence in the lee of the mountain tanges.

Spirina, L. P.
PERSISTENCE FORECASTS OF MONTHLY AIR TEMPERATURE ANOMALIES WITH EXAMPLES FOR LENINGRAD AND ORENBURG. [1963] [6]p. (figs. tables omitted) 1 ref. Trans. no. 115(M); [DSIR] NLL M. 3748.
Order from OTS or SLA $1.10 63-19809

Unedited trans. of Glav[naya] Geofiz[icheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1959, v. 89[151] p. 53-59.

DESCRIPTORS: *Weather forecasting, *Atmospheric temperature, Meteorology.

The present work examined the possibility of preparing persistence forecasts for different places from data on the anomalies of past five-day periods. The principle of preparation of persistence forecasts is embodied in the extension of the anomalies of the first five-day period of the current month and the last five-day period of the preceding month to the period being forecast. The most characteristic months for forecasting are noted, the accuracy of persistence forecasts for the period 1871 to 1945 is checked and a comparison of the variation in persistence is made between given points. The method can be used as an additional means in the practice of forecasting for a month. (Author)

Volevaha, N. M.
ON THE METHOD OF SHORT-PERIOD FORECASTING OF GLAZED ICE, tr. by W. W. R. Jennings. [1963] [17]p. (figs. omitted) 8 refs. DSIR NLL M. 3821.
Order from OTS or SLA $1.60 63-19742

Unedited trans. of Ukrainskii Nauchno-Issledovatel'skii Gidro-Meteorologicheskii Institut. Trudy (USSR) 1960, v. 21, p. 38-49.

DESCRIPTORS: *Ice, *Weather forecasting, Nomographs, Air mass analysis, Atmospheric precipitation, Meteorology.

Zubyan, G. D.
INTER-LATITUDINAL EXCHANGE OF WARM AND COLD AIR MASSES IN THE STRATOSPHERE IN WINTER. [1963] [8]p. (figs. omitted) 10 refs. Trans. no. 100; [DSIR] NLL M. 3751.
Order from OTS or SLA $1.10 63-19806

Unedited trans. of Met[eorologiya i] Gidr[ologiya] (USSR) 1959, no. 1, p. 3-12.

DESCRIPTORS: *Atmospheric motion, *Stratosphere, *Atmospheric temperature, Climatology, Meteorology.

Results are presented of a synoptic study of intense interlatitudinal exchange of warm and cold air masses and the important redistribution of temperature fields and of air streams which were observed in the middle of the winter of 1958, in the stratosphere above middle and high latitudes in the Northern Hemisphere. In the investigation, the 100, 50 and 30 sub-contour charts and the corresponding charts of the isotherms were consulted. Detailed analyses were made of the data from the aerological observations of the North Pole - 7 Station ("NP-7"), which in the second half of January 1958 was drifting not far from the pole (about 85°N and 156-158°W).

Frost Science

SNOW AND SNOW EVAPORATION: SELECTED ARTICLES. 1963, 30p. 31 refs. PL-480 Agr.
Order from OTS $0.50 63-11005

Trans. of mono. Voprosy Ispol'zovaniya Snega [i Bor'ba so Snezhnymi Zanosami i Lavinami (Problems of Snow Utilization and the Struggle with Snow Drifts and Avalanches) Moscow] 1956, p. ##106-119; mono. Sneg i Talye Vody: [Ikh Izuchenie i Ispol'zovanie (Snow and Snow Waters: Their Study and Utilization) Moscow] 1956, p. 44-51; Meteorologiya i Gidrologiya (USSR) 1956, no. 2, p. 24-26; 1959, no. 8, p. 24-27; Lesnoe Khozyaistvo (USSR) [1952] v. 5, no. 6, p. 51-52. ##Another trans. is available from OTS or SLA $1.60 as 62-32505, July 62 [15]p.

DESCRIPTORS: *Snow, Wind, Velocity, Drift, Climatic factors, Storms, *Evaporation, Railroads, Trees, Plants (Botany)

Contents:
##The structure of storm snow and the laws of snow transport, by A. K. Dyunin
Evaporation from the snow cover in the Ergeni district, by E. D. Sabo
Evaporation from the snow surface according to observations at Dzhanybek, by P. F. Idzon
Evaporation from the surface of a snow cover under steppe conditions of West Siberia, by N. A. Mosienko and others
Snow-protective strips, with participation of spruce, in the forest-steppe districts of the Omsk Region, by G. S. Vakhrushin.

Antrushin, N. S.
TO COMBAT (ICE-JAM) FLOODS, tr. by E. R. Hope. July 63, 2p. DSIS T 394 R.
Order from NRCC NRCC C-4468

Trans. of Priroda (USSR) 1961 [v. 50] no. 11, p. 103-104.

DESCRIPTORS: *Floods, *Ice, *De-icing materials.

Müller, Fritz.
OBSERVATIONS ON PINGOS (Beobachtungen über Pingos) tr. by D. A. Sinclair. 1963, 117p. 124 refs. NRCC Technical Trans. 1073.
Order from NRCC $6.00 NRCC C-4482

Trans. of Meddelelser om Grønland (Denmark) 1959, v. 153, no. 3, 127p.

DESCRIPTORS: *Permafrost, *Arctic Regions, *Terrain, *Ice, Glaciers, Structural geology, Geology, Geography, Geological survey.

Geology

INTERNATIONAL GEOLOGY REVIEW, VOL. 5, NO. 1, P. 1-126. Jan 63, 1v. 266 refs.
Order from AGI $5.00, $55.00/year

Trans. of Sovetskaya Geologiya (USSR) 1961, no. 4, p. 60-85; no. 7, p. 34-45, 68-106, 134-144; Neftyanoe Khozyaistvo (USSR) [1961] v. 39, no. 2, p. 8-10.

DESCRIPTORS: *Geology, Periodicals, Stratigraphy, Structural geology, Geophysics, Oils, Deposits, Bauxite, Sulfides, Geochemistry, Gases, Reviews, Reports, Scientific organizations.

Contents:
Soviet Geology, 1961, no. 7: contents, critique, selected publication, availability of translations
History of the geological development of the Pamirs and adjacent regions of Asia in the Mesozoic-Cenozoic (Triassic-Lower Cretaceous) by V. N. Krestnikov
Minor intrusions and sills in the eastern Nakhichevan ASSR and the tectonics of their formations, by G. P. Kornev
History of the geological development of the Pamirs and adjacent regions of Asia in the Mesozoic-Cenozoic (Upper Cretaceous-Quaternary) by V. N. Krestnikov
Geophysical features of oil-bearing structures in the Volga-Ural province, by B. A. Andreev and others
Origin of bauxites of the northern Urals, by I. I. Plotnikov and E. D. Milovidov
Positive anomalies of the natural electric field above sulfide ore bodies, by A. Ya. Davydov
Variations in the hydrocarbon composition of gases in Kobystan Tertiary pools, by F. G. Dadashev and S. G. S. Salaev
Review section
Notes on international scientific meetings
Reference section.

Bogdanov, A. I., Komarov, S. G., and Fedynskii, V. V.
GEOPHYSICAL METHODS OF PROSPECTING FOR OIL AND GAS IN THE USSR. [1963] 32p. 1 ref.
Order from OTS or SLA $3.60 63-16556

Trans. of [Geologiya Nefti i Gaza] (USSR) 1957, v. 1, no. 11, p. 13-29.

DESCRIPTORS: *Geophysical prospecting, *Oils, *Natural gas, Gravimeters, Seismic waves, Magnetometers, Airborne, Well logging, Electrical properties, Scientific research.

Topics include: Inception and principal stages of development; present state of field prospecting methods; aeromagnetic survey; gravimetric survey; electrical prospecting; seismic prospecting; and present state of oil-field geophysics.

Cherdyntsev, V. V. and Mikhailov, V. F.
THE PRIMORDIAL TRANSURANIUM ISOTOPE IN NATURE (Pervozdannyi Zauranovyi Izotop v Prirode) tr. by Lydia Venters. Mar 63 [16]p. 17 refs.
Order from OTS or SLA $1.60 AEC-tr-5739

Trans. of #Geokhimiya (USSR) 1963, no. 1, p. 3-[14].

DESCRIPTORS: *Transuranium elements, Isotopes, Radioactivity, Gamma rays, Minerals, Radioactive decay, Decay schemes, *Curium, *Americium, *Plutonium, Geochemistry.

In some young natural samples a primordial radioactive α-emitter is obtained. The α-spectrum main line extends from 4.2 to 4.6 mev and the gamma rays have the energy in the region: 90 - 250 kev. This isotope, apparently, is Cm^{247}. Decay products Am^{243} and Pu^{239} accompany it. The Cm^{247} - content in natural minerals is about: $n \times 10^{-8}$% and $Cm^{247}/U^{238} = n \times 10^{-2}$ (activity units). The decay period of the isotope is estimated as 2.5×10^{8} years. (Author)

Galuzo, Yu. V.
ON THE POSSIBILITY OF THE QUANTITATIVE DETERMINATION OF BORON IN ROCKS BY THE NEUTRON GAMMA METHOD. [1963] [6]p.
Order from OTS or SLA $1.10 63-16989

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Neft' i Gaz (USSR) 1958, v. 1, no. 1, p. 41-44.

DESCRIPTORS: *Rock (Geology), *Boron, Neutrons, Gamma rays, *Radiometers, Radioactivation analysis.

Gerasimovskii, V. I., Tuzova, A. M., and Shevaleevskii, I. D.
THE ZIRCONIUM-HAFNIUM RATIO IN MINERALS AND ROCKS OF THE LOVOZERO MASSIF (O Tsirkonievo-Gafnievom Otnoshenii v Mineralakh i Porodakh Lovozerskogo Massiva). [1963] [14]p. 13 refs.
Order from OTS or SLA $1.60 AEC-tr-5588

Trans. of #Geokhimiya (USSR) 1962, no. 6, p. 501-507.

DESCRIPTORS: *Geochemistry, Minerals, Rock (Geology), *Zirconium, *Hafnium, Gravimetric analysis.

In the Lovozero intrusion (Kola Peninsula) towards the end of the magmatic process from rocks of the first intrusive facies to the third one, there occurs an increase of the value of the ZrO_2/HfO_2 ratio from 40 to 60. The average value of this ratio for the whole

massif is about 47. In zirconium minerals from rocks this ratio exceeds the average (in eudialite -- 54, in lovozerite -- 69), and in zirconium-containing minerals it is lower (in aegirine about 40 and in arfvedsonite up to 40-48). The differences in the values of the zirconium-hafnium ratio in minerals are due to the incomplete identity of the Zr and Hf properties, as well as to crystallochemical factors. The highest ZrO_2/HfO_2 ratios are characteristic of minerals formed under conditions of postmagmatic processes, such as lovozerite, catapleite, belyankinite. (Author)

Gomonai, V. I., Krivskii, I. Yu. and others.
DELIMITING OF OIL-BEARING AND WATER-BEARING STRATA BY MEANS OF ELECTRON AND PHOTON BEAMS. [1963] 6p. 16 refs.
Order from OTS or SLA $1.10 63-16990

Trans. of Atomnaya Energiya (USSR) 1960, v. 9, [no. 4] p. 313-315.

DESCRIPTORS: Separation, Oils, Water, Stratigraphy, *Electron beams, *Photons, *Geophysical prospecting, Nuclear reactions, Photonuclear reactions.

On the basis of the formation of different numbers of photoneutrons in water and oil, the problem of delimiting oil-bearing and water-bearing strata can be solved through the use of electron beams with energies of the order of 8 Mev or more. Small-size, high-intensity electron accelerators must be developed for this purpose. (Author)

Korganov, L. I.
COMBATTING THE PROBLEM OF PARAFFIN IN PETROLEUM EXTRACTION. 5 Mar 57, 14p. (figs. omitted) 4 refs.
Order from OTS or SLA $1.60 63-14086

Trans. of Neftyanoe Khozyaistvo (USSR) 1933, v. 25, no. 10, p. 27-35.

DESCRIPTORS: *Waxes, *Fouling, Pipes, Oil tanks, Pumps, Storage tanks, Decomposition, *Petroleum, Refineries, Cleaning, Heating, Solvents, Chemicals, Solubility, Production.

Luber, A. A. and Waltz, I. E.
ATLAS OF MICROSPORES AND POLLEN GRAINS OF THE PALAEOZOIC OF THE U.S.S.R. 29 Mar 62 [230]p. (figs. omitted).
Order from OTS or SLA $15.00 62-24496

Trans. of [Tsentral'nyi Nauchno-Issledovatel'skii Geologo-Razvedochnyi Institut. Trudy] (USSR) 1941, v. 139, 108p.

DESCRIPTORS: *Paleoecology, *Spores, *Pollen, Coal, Clay, Rock (Geology), Classification, Paleontology.

A systematic morphological description is presented of spores and pollen isolated from coal and clayey rock of the Palaeozoic deposits of the U.S.S.R., commencing with Devonian and ending with Permian.

Mel'nikov, P. I.
CONCERNING THE REGULARITIES IN THE DISTRIBUTION AND DEVELOPMENT OF PERMAFROST SOILS AND PARENT ROCKS IN THE LENA RIVER BASIN (O Zakonomernostyakh Rasprostraneniya i Razvitiya Merzlykh Pochv i Gornykh Porod v Basseine r. Leny). [Mezhduvedomstvennoe Soveshchanie po Merzlotovedeniyu (no. 7) Moscow, 1956]. 1963, 13p. PL-480 Int.
Order from OTS $0.50 63-11132

Trans. of mono. Materialy po Obshchemu Merzlotovedeniyu (Materials on General Geocryology) Moscow, 1959, p. 91-102.

DESCRIPTORS: *Permafrost, Distribution, *Soils, *Rock (Geology), Geological survey.

Investigations in the territory of the Jakutsk ASSR resulted in providing new data concerning the nature of the distribution of the permafrost rocks, of the regularities in the changes of temperature with depth, and of the changes in the thickness of permafrost rocks in the meridional and latitudinal directions. (Author)

Oblogina, T. I.
SOME AMPLITUDE FEATURES OF WAVES IN MEDIUMS WITH STEEPLY DIPPING INTERFACES (Nekotorye Amplitudnye Osobennosti Voln v Sredakh s Krutopadayushchimi Granitsami Razdela). [1963] [21]p. (foreign text included) 3 refs.
Order from OTS or SLA $2.60 63-16552

Trans. of Moscow U. Vestnik. [Seriya 4: Geologiya] (USSR) 1961 [v. 16] no. 2, p. 52-60.

DESCRIPTORS: *Seismic waves, *Mechanical waves, *Geophysics, Structural geology, Folds (Geology), Faults (Geology), Models (Simulations), Tests, Diffraction.

In the case of falling of the steeply inclined contact in a direction under the intrusive body, i.e. when there is a diffraction from the point of an acute angle, the values of the amplitude curve of a diffracted wave, uniformly decrease along the profile as distance from the boundary of contact increases. In the case of falling of the steeply inclined contact under the enclosing medium, i.e. with the diffraction from the point of an obtuse angle, the values of the amplitudes of diffracted waves along the profile at first diminish but then increase and may be greater than the amplitudes of a leading wave undergoing diffraction. The qualitative method of investigating diffracted waves in seismographic exploration was applied only to a medium of simple structure. This method may be used also in examining many other analogous but more complicated problems of seismographic exploration and in particular in problems similar to the one investigated but with consideration of the influence of zones of low velocity. (Author)

Posylnyi, V. Ya.
THE VARIATION OF THE SPECIFIC GRAVITY OF COAL DURING THE PROCESS OF METAMORPHISM. [1963] 7p. 17 refs. NCB Trans. A. 2129/SEH; [DSIR] NLL M. 3972.
Order from OTS or SLA $1.10 63-19858

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 137, no. 1, p. 178-181.
Another trans. is available from AGI $8.00.

DESCRIPTORS: *Coal, *Density, *Metamorphic rock, Geochemistry, Physical properties, Chemical properties.

Simonyants, L. E. and Zhlobinskii, B. A.
CONTACT TIME AND DYNAMIC LOADING IN ELASTIC IMPACT ON ROCK. [1963] 4p.
Order from ATS $6.00 ATS-32Q69R

Trans. of Izv[estiya] Vysshikh Uchebn[ykh] Zavedenii. Neft' i Gaz (USSR) 1962, v. 5, no. 11, p. 21-24.

DESCRIPTORS: *Rock (Geology), Impact shock, Loading (Mechanics), Elasticity, Dynamics.

Teslyuk, E. V., Kapyrin, Yu. V., and Trebin, G. F.
EVALUATING THE EFFECTIVENESS OF THERMAL TREATMENT IN A FORMATION. [1963] 11p.
Order from ATS $13.75 ATS-21P66R

Trans. of Neft[yanoe] Khoz[yasitvo] (USSR) 1962, v. 40, no. 8, p. 42-49.

DESCRIPTORS: *Stratigraphy, Geophysical prospecting, Mining engineering, Petrology, *Thermal radiation, Heat transfer.

Tikhonov, A. N. and Enenshtein, B. S.
ON A METHOD FOR DETERMINATION OF DEPTHS OF THE CRYSTALLINE BASIS (FOUNDATION) OCCURRENCE FROM THE PHASE CURVES OF SOUNDINGS BY ELECTROMAGNETIC FREQUENCY. [1963] 5p. 2 refs.
Order from OTS or SLA $1.10 63-18440

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 145, no. 1, p. 89-[92].

DESCRIPTORS: *Geophysical prospecting, Structural geology, Electromagnetic properties, Geophysics.

Mineralogy

Borisov, V. M.
EFFECT OF ALKALI AND SODA ON THE FLOTATION PROPERTIES OF NON-SULFIDE MINERALS. [1963] 11p. (figs. omitted) 9 refs.
Order from OTS or SLA $1.60 63-16259

Trans. of Khimicheskaya Promyshlennost' (USSR) 1954, no. 4, p. 213-216.

DESCRIPTORS: *Minerals, *Flotation (Separation), Reagents, Sodium compounds, Carbonates, Salts, Surface properties, Hydrogen ion concentration.

Riedl, Hans Joachim and Dahmlos, Johannes.
PROCESS FOR THE DESILICIFICATION OF FLUORITE (FLUOR SPAR). [1963] 6p.
Order from OTS or SLA $1.10 63-16242

Trans. of German patent 1,042,550, cl. 12 i 10, internat. cl. C 01 b, appl. no. W 21 779 IVa/12i 23 Aug 57, issued 6 Nov 58, by WASAG-Chemie A. G.

DESCRIPTORS: *Fluorspar, Fluodilicic acids, Fluorides, Ammonium compounds, Silica, Separation.

The invention involves a process for the desilicification of fluorite, characterized in that the silicic acid-containing spar is treated with annonium bifluoride or a mixture of ammonium bifluoride and -fluoride, preferably in watery solution, possibly at increased temperature, and from the ammonium fluosilicate formed, after separation of the desilicified spar by the effect of ammonia, the silicic acid is separated and filtered off, the amminium fluoride solution formed is converted by evaporation and heating up of the residual salt melt while regaining the ammonia again in the ammonium bifluoride or advantageously in a mixture of ammonium bifluoride and -fluoride and the ammonium-fluor-compounds are brought back into the process. The fluorite is subsmitted to a double or miltiple treatment with a solution of ammonium bifluoride and -fluoride, wherein, in each instance, after separation of the accrueing solution of the doubly extracted spar, without further processing it is used for the extraction of fresh fluorite. The mixture of ammonium bifluoride and -fluoride is produced by heating of the salt melt to approx. 160 to 170°C. (Author)

Smolyaninova, N. N. and Moleva, V. A.
BAVENITE IN THE SKARNS OF THE BATYSTAU DEPOSIT (Nakhodka Bavenita v Skarnakh Mestorozhdeniya Batystau) tr. by W. John Cieslewicz. Nov 61 [8]p. 10 refs.
Order from OTS or SLA $1.10 62-15741

Trans. of mono. Materialy po Geologii Rudnykh Mestorozhd., Petrografii, Mineralogii i Geokhimii, AN SSSR, 1959, p. 275-278.

DESCRIPTORS: *Minerals, Ores (Non-metallic), *Economic geology, Physical properties, Chemical properties.

Physics of the Atmosphere

PHENOMENA IN THE UPPER ATMOSPHERE: COMPILATION OF ABSTRACTS. Rept. 35 reviewing Soviet Developments in Selected Problems in Astrophysics and Geophysics; AID Work Assignment 3. 1 July 63 [30]p. AID Rept. P-63-87.
Order from OTS or SLA $2.60 63-23216

DESCRIPTORS: *Abstracts, *Upper atmosphere, *Astrophysics, *Geophysics, Solar radiation, Ionosphere, Earth, Electric currents, Atmospheric electricity, Meteorology.

Contents:
Solar radiation and the ionosphere
Telluric currents
Atmospheric electricity
Meteorology of the upper atmosphere.

Pressman, A. Ya. and Yatsenko, S. P.
ON THE POSSIBILITY OF THE MEASUREMENT OF THE TEMPERATURE OF THE UPPER LAYERS OF THE ATMOSPHERE USING A NARROW TUBE. [1963] [9]p. (figs. omitted). Trans. no. 1(W); [DSIR] NLL M. 3982.
Order from OTS or SLA $1.10 63-19849

Unedited trans. of [Geomagnetizm i Aeronomiya] (USSR) 1961 [v. 1] no. 1, p. 49-53.

DESCRIPTORS: Upper atmosphere, *Atmospheric temperature, Temperature sensitive elements, Ions, Pipes, Satellites (Artificial), Measurement, Meteorology.

A stream of ions through the bottom of a narrow tube, mounted on an artificial satellite, is considered. Formulas and numerical characteristics are adduced for the case of an infinitesmally narrow tube on a satellite with no charge. It is proposed to utilise the evolved relationships for measurement of the temperature of the upper layers of the atmosphere. (Author)

ENGINEERING

Bunel, Marcel-Louis-Ernest.
AIRCRAFT, tr. by F. H. B. 24 Apr 63, 11p. (figs. omitted).
Order from OTS or SLA $1.60 63-19613

Trans. of French patent 1,169,121, gr. 6, cl. 4, internat'l cl. B 64 c - B 64 d, appl. 6 Mar 57, granted 8 Sep 58, pub. 23 Dec 58.

DESCRIPTORS: *Tailless airplanes, Design, Airplane engines, Aerodynamic configurations.

The invention relates to an aircraft propelled by propelling devices such as reaction engines, characterized in that it is provided with means by which said propelling devices can be utilized for its propulsion proper or for the directional control of the aircraft, whereby particularly the need for ailerons and rudder is eliminated. The invention relates also to an aircraft containing a movable and a fixed wall, characterized in that the aircraft is propelled by a reaction-engine-driven impeller cooperating with means for the directional control of the aircraft, thus producing an ascending or descending vertical flight, or a horizontal or oblique flight. (Author)

Gärtner, Erwin.
THE INTRODUCTION OF A HEAVY RAIL SECTION AND THE TECHNICAL DEVELOPMENT OF THE SHAPE OF THE SUPERSTRUCTURE IN OPEN-PIT-MINING OF LIGNITE, PTS 1-2. [1963] 55p.
Order from SLA $5.60 63-16126

Trans. of Braunkohle, Wärme und Energie (West Germany) 1953 [v. 5] no. 1/2, p. 1-12; no. 3/4, p. 49-60.

DESCRIPTORS: *Lignite, *Mining engineering, *Railroad tracks, Mechanical properties, Load distribution.

Surkov, A. I.
THE INFLUENCE OF PIT-BOTTOM WORKINGS ON STRESS DISTRIBUTION ROUND VERTICAL SHAFTS. [1963] 9p. 2 refs. NCB Trans. A. 1970/JG; [DSIR] NLL M. 3899.
Order from OTS or SLA $1.10 63-19942

Trans. of Shakhtnoe Stroitel'stvo (USSR) 1960 [v. 4] no. 7, p. 17-20.

DESCRIPTORS: *Mining engineering, Rock (Geology), Mechanical properties, Models (Simulations), Load distribution, *Stresses, Analysis.

Chemical Engineering

MANUFACTURING PROCESS FOR 2 METHYL-5 VINYL PYRIDINE. 20 June 63, 8p. 7729/59 Japan.
Order from INT $24.00

Trans. of Japanese patent 7729/59 by Dainihon Celluloid Co. Ltd., Japan, filed 29 Nov 57.

DESCRIPTORS: *Pyridines, *Methyl radicals, *Vinyl radicals, Manufacturing methods.

MARCUSSON'S METHOD FOR DETERMINING THE PARAFFIN CONTENT OF ASPHALTS [Die Methoden zur Bestimmung des Paraffingehaltes in Asphalten. II. Methode nach Marcusson]. [1962] 2p.
Order from SLA $1.10 63-10457

Trans. of Petroleum Zeitschrift (Austria) 1931, v. 27, Asphalt sect. no. 3, p. 3-4.

DESCRIPTORS: *Asphalts, *Waxes, *Methanes, Quantitative analysis, Hydrocarbons.

METHOD FOR MANUFACTURE OF NEW DERIVATIVE OF PHENOTHIAZINE. 20 June 63, 4p. 6121/59 Japan.
Order from INT $12.00

Trans. of Japanese patent 6121/59 by Société des Usines Chimiques Rhone Poulenc, France, filed 1 Aug 57.

DESCRIPTORS: *Phenothiazine derivatives, Manufacturing methods.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 99. 25 July 63, 70p. JPRS: 20333.
Order from OTS $2.00 63-31371

Trans. of Nauka i Zhyttya (USSR) 1963 [v. 13, no. 1] p. 39-41; Steklo i Keramika (USSR) 1963 [v. 20] no. 5, p. 39-41; and 17 selected articles from 1963 issues of 7 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Medical supplies, *Automation, *Economics, *Sodium compounds, Sulfates, *Labor, Chemicals, Costs, *Fibers (Synthetic), *Silk, *Industrial plants, Construction, *Cellulose, *Citric acid, *Rubber coatings, *Cybernetics, *Ceramic materials.

Contents:
The lagging production of medical supplies
Automation of chemical production, by N. Baibakov
Chemical production hampered by poor supply-demand estimates
The inadequate development of the mirabilite sources, by I. Kovalenko
Individual responsibility in chemical production, by Yu. Denisov
Skill: the worker's best weapon, by V. Lukoyanichev
On the frugal use of chemical raw materials, by E. Ivanova
Appraisal of Ryazan' artificial-fiber plant operations, by I. Dankov
The ruble control in chemical production, by A. Komkov
Automation of chemical production is profitable, by I. Shimko
Reducing the cost of silk production, by A. Borik and B. Golyadkin
More attention to the large chemical construction projects, by S. Smolenskii
Capital construction: an urgent problem for the chemical industry, by A. Akul'shin and A. Nizhegorodov
Cellulose production still lagging
Lame excuses for production failures
Citric acid production ahead of schedule, by B. Stolyarov
A faulty rubberizing job, by A. Bleshko and others
Cybernetics and the chemical industry, by V. Kostelyanskii and E. Kurdyuk
New products developed and manufactured by Slavyansk ceramic insulator combine, by M. V. Gardiga.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 100. 29 July 63, 40p. JPRS: 20367.
Order from OTS $1.25 63-31388

Trans. of 12 selected articles from 1963 issues of 7 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Labor, Polyamide plastics, *Industrial plants, Construction, *Polymers, *Education, Glass textiles, *Plastics industry.

Contents:
Shortage of manpower in Leningrad machine building industry, by F. Shlikht
Expedite caprolactam production at Rustavi, by R. Mshvenieradze
Building the Kalush chemico-metallurgical combine, by I. Bakov
Expedite the construction of the Podmoskovnii mining-chemical combine, by V. Nemirovich
The present and the future of polymers, by M. Garbar
For an integrated development of the Ufa chemical plant, by A. Boguslavskii
How the party helps expedite construction, by A. Lebedev
Improving the moral and political education of the personnel of the Derbenevskii chemical plant, by A. Kochkurov
Expedite the construction of the fiberglass-reinforced plastics plant in Severodonetsk
Comments on the construction of the Severodonetsk fiberglass-reinforced plastics plant
Improve the organization of the plastics industry in the Ukraine, by N. Maulin
Expedite the construction of the Zhilevo plastics plant, by V. Vlasov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 103. 30 July 63, 25p. JPRS: 20410.
Order from OTS $0.75 63-31415

Trans. from Kazakhstanskaya Pravda (USSR) 1963, 3 Apr, p. 2; Kommunist Erevan (USSR) 1963, 3 Apr; 16 Apr; Pravda Ukrainy (USSR) 1963, 2 Apr; Sovetskaya Rossiya (USSR) 1963, 16 Apr, p. 2; Trud, Moscow (USSR) 1963, 11 Apr, p. 1; Zarya Vostoka (USSR) 1963, 2 Apr.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Conferences, *Industrial plants, Construction, Copper, Chemicals, Tires, Paper, Cellulose, Phosphates, Scientific research.

Contents:
Conference of active members of the Kirovakanskii sovnarkhoz, by M. Babayan
Achievements and shortcomings at Lisichansk chemical combine, by A. Shcherbakov and others
Criticism of shortcomings at Alaverdi copper and chemical combine, by S. Bazhenov and others
Achievements at the Omsk tire plant, by K. Naidin
Construction and activation of the Kotlass paper-cellulose combine
Difficulties and shortcomings in construction of Chimkent phosphate plant, by A. Tikhonichev and others
Shortcomings of chemical research in the Georgian SSR, by V. Kakabadze.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 104. 30 July 63, 62p. JPRS: 20414.
Order from OTS $1.75 63-31416

Trans. of Partiinaya Zhizn' (USSR) 1963, no. 4, p. 52-54; #Voprosy Ekonomiki (USSR) 1963, no. 5, p. 3-14; and 12 selected articles from 1963 issues of 7 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Economics, Phosphates, *Industrial plants, Construction, Polyamide plastics, *Ores (Non-metallic), *Nepheline, Polyethylene plastics, *Halocarbon plastics, *Fibers (Synthetic), *Abrasives, Quality control, *Conferences, Synthetic rubber, Potassium compounds, Hydroxides,

Contents:
The chemization of production and progressive structural shifts in industry, by L. Kochetkov and others
Achievements of the Samarkand superphosphate plant, by G. Barikina
Expedite the production of caprolactam in Rustavi, by B. Mshvenieradze and others
The problem of utilizing nepheline syenites of Kirgiziya, by V. Vermishev and others
Polyphene fiber is developed, by A. Smirnyagina
Activities of the Chardzhou superphosphate plant, by I. Sinishov
Improving production quality at the Il'ich abrasives plant, by N. Chirskov
The Severodonetsk Conference of Chemical-Industry Builders
Building chemical enterprises in Baskhiriya, by Z. Nuriev
Expedite the construction of chemical enterprises in Sumgait, by P. Tolkachev and others
Building the Omsk synthetic rubber plant, by A. Veselov and others
Expedite the construction of Soligorsk potash combines, by K. Sevryuk and others
Produce better equipment for chemical industry, by V. Nikolaev
Obstacles to expanding the output of artificial fibers in Mogilev, by A. Nikonov

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 105. 30 July 63, 53p.
JPRS: 20427.
Order from OTS $1.50 63-31423

Trans. of 16 selected articles from 1963 issues of 6 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Plastics industry, *Economics, *Personnel, *Industrial research, Design, Conferences, *Power supplies, Herbicides, *Reinforced concrete, Structural parts, Fibers (Synthetic), *Industrial plants, Construction, *Tires, Maintenance.

Contents:
Improving the design of plastics enterprises
How the Giproplast institute is doing its work
Economic aspects of the design work of the Giproplast institute
How to make technical-economic studies of enterprise projects
Hire more economists at Giproplast
Improve the bond between research and design in the field of plastics
The economic aspects of design work are important
Results of the meeting of economists from the Giproplast institute
Supply more electric power for Novo-Kemerovo chemical enterprises, by P. Stirov
The Ufa chemical plant expands its herbicide output, by M. Bukhanov
Improve the quality of reinforced-concrete structural elements, by V. Medvedev and S. Alekseev
Designing new artificial fiber plants, by S. Dich
The tire-repair industry in the Ukraine, by D. Savich
Chemical industry in the Donetskii economic region, by N. Khudosovtsev
Building chemical enterprises in Severodonetsk, by V. Parfenov
Chemical-Industry Conference at Severodonetsk.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 106. 31 July 63, 36p.
JPRS: 20432.
Order from OTS $1.00 63-31425

Trans. of Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 4, p. 37-41, 66 and 11 selected articles from 1963 issues of 8 Russian newspapers

DESCRIPTORS: *Industrial prodiction, *Chemical industry, *Chemical engineering, *Aldehydes, Butyl radicals, Synthesis (Chemistry), *Catalysts, Fluidized solids, Fibers (Synthetic), Industrial plants, Construction, Chemicals, Tires, *Plastics, *Rotary pumps, *Vacuum pumps, *Balances, Polyethylene plastics, Styrene plastics, *Plastic tubing, *Industrial diamonds, *Synthetic stones.

Contents:
The synthesis of butyraldehyde in a fluidized bed of catalyst, by A. Sarkisyan and others
Saratov nitron construction is proceeding well, by B. Pereberin
The Leningradskii sovnarkhoz is neglecting development of the raw materials base for synthetics, by V. Zhynko and V. Zelenin
Decisions regarding shortcomings revealed at the Dnepropetrovsk tire plant
Plastic articles plan over-fulfilled, but reconstruction needed at the Komsomol'skaya Pravda plant, by N. Kononov
Description of a new type of rotary vacuum-pump
Brief description of an automatic weighing device
Serious disorders at the Gur'evskii polyethylene plant in spite of over-fulfillment of the plan, by A. Varochkin and others.
Some polystyrene production has begun at Gorlovka and the rest is near start-up, by I. Burinda
Recent chemical construction in the Donbas
A visit to the Lugansk plastic tubing plant, by V. Malishevskaya
A discussion of problems in the plastics processing industry, by V. Khazanchuk and others
The great value of synthetic industrial diamonds, by V. Tsokota.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 107. 1 Aug 63, 38p.
JPRS: 20459.
Order from OTS $1.25 63-31434

Trans. of 19 selected articles from 1963 issues of 11 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Industrial plants, Construction, *Plastics industry, Polyamide plastics, Textiles, Coal, *Tar, *Adhesives, Packaging, *Oxygen, *Sprinklers, Fibers (Synthetic), Synthetic rubber, Tires, Sulfate pulp, Cellulose, Paints, *Furaldehydes.

Contents:
Plans to accelerate construction of chemical plants in Bashkiriya
Progress in preparing the Rustavi caprolactam facilities for operation, by B. Mshvenieradze and others
A report of deficiencies at Barnaul, by Z. Danyushevskii
Responsibility fixed for unsatisfactory progress in construction of textile equipment plant in Cheboksari
A reply to complaints about slow development of coal tar chemistry
A protest about improper assignment of glue packaging, by I. Kaufman
An oxygen shop started up without outside help, by Yu. Shindel'man
Installation of an automatic sprinkler system in a Leningrad paint and varnish plant
Construction of first artificial fiber plant in the Western Ukraine started
A visit to the new synthetic rubber plant at Efremov, by A. Steshanov and I. Sashin
Equipment assembly started at Soligorsk
Kapron production at Kursk nears start-up
How the Lisichansk chemical workers' competition is proceeding
Anon production almost ready at Rustavi, by B. Mshvenieradze and others
A chaotic situation at the Dnepropetrovsk tire plant is revealed, by A. Dolenko
Disorders revealed at the Svetogorsk sulfite-cellulose plant, by V. Barausov
A history of confusion in arranging the reconstruction of the Odessa paint and varnish plant, by Ts. Levitin
Furfural: the potential basis of a chemical industry in Moldavia, by B. Lazur'evskii and E. Khariton
How various chemical enterprises are fulfilling their obligations, by V. Sirenko and others.

Amelin, A. G., Baranova, A. I. and Vasil'ev, B. T.
FABRICATION D'ACIDE SULFURIQUE PAR LE PROCÉDÉ DE CATALYSE HUMIDE (Sulfuric Acid Production by the Wet-Catalyst Method). 15p. 16 refs.
Order from OTS, ETC or CNRS $0.80 62-26996

Trans. in French of Khimicheskaya Promyshlennost' (USSR) 1955 [no. 8] p. 453-457.

DESCRIPTORS: Sulfuric acid, Production, Hydrogen compounds, Sulfides, Combustion, Air, Catalysis, Water vapor.

Amelin, A. G.
RÉGIME LE PLUS FAVORABLE POUR PURIFIER LES GAZ DE GRILLAGE (Optimum Conditions for the Purification of Roaster Gas for Sulfuric Acid Production). 10p. 9 refs. FR-1528.
Order from OTS, ETC or CNRS $0.80 62-26475

Trans. in French of Khimicheskaya Promyshlennost' SSSR, 1960, no. 2, p. 116-126.

DESCRIPTORS: *Sulfuric acid, Production, *Combustion chamber gases, Aerosols, Purification, Heat exchangers, Humidity.

Badyshtova, K. M.
PURIFICATION PAR HYDROGENATION DE LA PARAFFINE OBTENUE À PARTIR DES PÉTROLES SULFUREUX DE L'EST (Hydro Refining of Paraffins from Eastern (USSR) High-Sulfur Crude Oils). 8p. 2 refs. FR-1745.
Order from OTS, ETC or CNRS $0.80 62-26458

Trans. in French of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1961, [v. 6] no. 6, p. 21-[26].

DESCRIPTORS: *Petroleum, *Waxes, Purification, Hydrogenation, Colors, *Sulfur, Oils.

Balbo, Paolo Antonio lo.
PROCEDURE FOR TREATING BENTONITE CHEMICALLY, TRANSFORMING IT INTO AN INDUSTRIAL PRODUCT FOR DETERGENT PURPOSES AS A SUBSTITUTE FOR SOLVAY SODA AND THE LIKE. [1963] 6p.
Order from OTS or SLA $1.10 63-14535

Trans. of Italian patent 453,963, cl. XXIV, appl. 8 Feb 49, granted 23 Dec 49.

DESCRIPTORS: *Bentonite, *Cleaning compounds, Manufacturing methods, Salts, Chemical properties, Physical properties.

Bender, K.
RESULTS OF A CARBUROL CRACKING PLANT IN FRANCE [Ergebnisse einer Karburol-Krackanlage in Frankreich]. 17 Jan 35, 9p. (figs. omitted).
Order from SLA $1.10 63-10480

Trans. of Petroleum Zeitschrift (Austria) 1931, v. 27 [no. 4] p. 53-56.

DESCRIPTORS: *Refineries, Operation, Oils, Gases, Kerosene, Gasoline, Decomposition, Hydrocarbons.

Cherepkov, I. F.
FORMATION DU BROUILLARD DE H_2SO_4 LORS DE LA PRÉPARATION DE CET ACIDE EN PRÉSENCE DES COMPOSÉS DE L'AZOTE (Tumanoobraznaya Kisgota v Nitroznom Sernokislotnom Protsesse) (Fog Formation by Acid in the Nitrosylsulfuric Acid Process) 13p.
Order from OTS, ETC or CNRS $0.80 62-26500

Trans. in French of Khimicheskaya Promyshlennost' (USSR) 1940, v. 17, no. 3, p. 18-24.

DESCRIPTORS: *Sulfuric acid, *Nitrogen compounds, Sulfur compounds, Dioxides, Aerosols, Experimental data.

Chistyakov, A. I. and Lazareva, K. I.
INSTALACION DE DESORCION PARA ELIMINAR EL OXIGENO DEL AGUA (Desorbtsionnoe Ustroistvo dlya Udaleniya Kisloroda iz Vody) (Desorption Plant for the Elimination of Oxygen from Water) 8p.
CID: 62-235.
Order from OTS, ETC or CID $0.80 62-29235

Trans. in Spanish of Energetik (USSR) 1956, [v. 4] no. 2, p. 14-15.

DESCRIPTORS: *Oxygen, *Water, Separation.

Drimus, Iosif; Dragut, Alexandru and others.
METHOD AND INSTALLATIONS FOR THE OXIDATION OF PARAFFINS. [1963] 8p.
Order from OTS or SLA $1.10 63-18083

Trans. of Rumanian patent 41 642, serial no. 314, cl. 12 o, gr. 11, C. Z. 665.123.2, effective date of reg. 4 Dec 58, granted 24 Feb 61, filed 42 395, pub. 30 Jan 62.

DESCRIPTORS: *Alkanes, *Fatty acids, Oxidation, Oxygen, Gamma rays, *Radiation chemistry.

The invention concerns a method for the oxidation of paraffins with molecular oxygen in a hot state, by radioactive irradiation with gamma rays, characterized by the fact that the radioactive pre-irradiation is accomplished without insufflation of any air within an irradiation zone situated at a distance from the oxidation zone, from where the irradiated paraffin passes - either alone or mixed with separated and recyclized paraffins -- into hot oxidizers in which air is blown until a sufficiently oxidized crude product is obtained. This is then treated in the known manner in order to obtain fatty acids and non-oxidized paraffin for recyclization, as well as the products of the gaseous phase from the oxidizers. (Author)

Ermilov, P. I.
DIE ANWENDUNG NICHT IONOGENER NETZMITTEL ZUR ENTSTAUBUNG VON GASEN (The Application of Non-Ionogenic Wetting Agents for Dust Exhaust of Gases). 17p.
Order from TIB $2.70

Trans. in German of #Izvestiya Vysshikh Uchebnykh Zavedenii. Khimiya i Khimicheskaya Tekhnologiya (USSR) 1959, v. 2, no. 1, p. 134-140.

DESCRIPTORS: Ions, *Wetting agents, Particles, *Gases, Cleaning.

Klopfer, A.
GAS ANALYSIS IN VACUUM SYSTEMS. [1963] 11p.
Order from ATS $15.00 ATS-75Q69G

Trans. of Ingenieur (Netherlands) 1962, v. 74, no. 34, p. 72-78.

DESCRIPTORS: *Vacuum systems, *Gas analysis.

Kroll, A. V.
REMOVAL OF LITHIUM FROM ITS ALUMINUM-SILICATE ORES. [1963] 13p.
Order from OTS or SLA $1.60 63-16081

Trans. of Belgian patent 521,159, appl. 2 July 53, issued 31 July 53, by Compagnie Géologique et Minière des Ingenieurs et Industriels Belges "Geomines", Limited Liability Co. (appl. Luxembourg, 22 Aug 52 and 26 June 53).

DESCRIPTORS: *Material separation, *Lithium, *Ion exchange, Aluminum compounds, Silicates, Salts, Manufacturing methods, Ores (Metal sources).

The invention proposes a process for extracting lithium from its aluminum-silicate ores based on the exchange (under heat) of lithium cations with alkaline cations and distinguished by the fact that salts are used for the ion exchange which, like the lithium salts derived from the same acids, have a moderate melting point, generally below 400° C in their anhydrous state and which also show strong thermal dissociation tension. The ion exchange perferably takes place at the melting point of the mixture of salt, or salts (in an anhydrous state) and the ore, and in any case, at a low heat level, low enough so as not to destroy the salts. (Author)

Malevanskii, V. D.
IMPROVING THE QUALITY OF CEMENTING IN OIL AND GAS WELLS. [1963] 6p.
Order from ATS $9.75 ATS-99Q66R

Trans. of Naeft[yanoe] Khoz[yaistvo] (USSR) 1962, v. 40, no. 10, p. 18-22.

DESCRIPTORS: *Well drilling, Oils, Gases, Cements.

Mircev, A.
PREGENERATION OF BONE CHAR WITHOUT BURNING. [1963] [14]p. 4 refs.
Order from SLA $1.60 63-14874

Trans. of Listy Cukr[ovarnicke] (Czechoslovakia) 1953, v. 69, p. 241-245.

DESCRIPTORS: *Charcoal, Bone, Processing, *Sodium compounds, *Hydroxides, Water, Boiling, Carbohydrates, Liquids, Filters(Fluid), Refineries.

In the sugar refinery in Usti on Labem a trial production was conducted using regeneration of char by a cold method, only boiled with NaOH. The process was used for three decolorization cycles on all

filters. The results showed the usefulness of this method of regeneration, both for effect on decolorization and for economy. Beside this a regeneration by a cold method was tested. Char was first acidified, then basified, burning in kiln was omitted in both cases. Results proved that this method of regeneration is still more convenient and better than basification alone, because the content of $CaCO_3$ can be regulated simultaneously. Indicated technological and economical advantages result from the new methods of regeneration of char without using the char kiln. (Author)

Mukhlenov, I. P., Traber, D. G. and others.
OXYDATION DU SO2 DANS UN RÉACTEUR À CATALYSATEUR FLUIDIFIÉ (Oxidation of Sulfurous Gas in an Apparatus with a Fluidized Catalyst Bed). 10p. 18 refs. FR-1737.
Order from OTS, ETC or CNRS $0.80 62-26454

Trans. in French of Khimicheskaya Promyshlennost' (USSR) 1961, no. 1, p. 42-46.

DESCRIPTORS: *Sulfuric acid, Production, *Catalysts, *Vanadium, Processing, Fluidized solids.

Pacella Heylen, C. Luis.
EXPERIMENTS IN ELECTROTHERMIC CRACKING. [1962] 5p. (figs. omitted) 6 refs.
Order from SLA $1.10 63-10496

Trans. from [Universidad Nacional del Litoral. Facultad de Quimica Industrial y Agricola. Revista] (Argentina) 1937, v. 6.

DESCRIPTORS: *Hydrocarbons, *Decomposition, Laboratory equipment, Electric arcs, Electrodes, Copper, Iron, Hydrogen, Hexanes, Heptanes, Octanes, Kerosene, Ethylenes, Electrochemistry, Thermochemistry.

Penescu, Tr.
METHODS TO INTENSIFY THE FLOW OF OIL IN DRILLED OIL WELLS, BASED UPON THE REDUCTION OF THE INTERFACIAL TENSION WATER - OIL. (Consideratii asupra Metodei de Intensificare a Afluxului de Titei in Gaura de Sonda, Prin Reducerea Tensiunii Interfaciale Apa - Titei). [1962] [14]p. (foreign text included).
Order from SLA $1.60 62-18523

Trans. of Petrol si Gaze (Rumania) 1958, v. 9 [no. 3] p. 116-119.

DESCRIPTORS: Well drilling, Surface -active substances, Petroleum, Oils, Water, *Surface tension, Drilling fluids, *Fluid flow.

Popov, S. I., Shashkov, V. I. and Bulatov, V. D.
EXTRACTION PAR LA MÉTHODE DE FLOTTATION DU SÉLÉNIUM À PARTIR DES POUES PAUVRES DE L'INDUSTRIE SULFURIQUE (A Flotation Method for the Extraction of Selenium from Sulfuric Acid-Manufacture Residues). 14p. 5 refs. FR-1144.
Order from OTS, ETC or CNRS $0.80 62-26888

Trans. in French of Khimicheskaya Promyshlennost' (USSR) 1960, no. 4, p. 302-305.

DESCRIPTORS: *Sulfuric acid, Production, Flotation, *Selenium, Recovery.

Potolovskii, L. and Gutirya, V.
METHODS OF CHEMICAL TREATMENT OF PETROLEUM GASES. [1962] [20]p. (figs. omitted) 65 refs.
Order from OTS or SLA $1.60 63-10409

Trans. of Azerbaidzhanskoe Neftyanoe Khozyaistvo (USSR) 1934, v. 14 [no. 5] p. 62-69.

DESCRIPTORS: *Petroleum, *Gases, *Hydrocarbons, *Pyrolysis, *Decomposition, Oxidation, Polymerization, Distillation, Absorption, Reagents, Chlorine, Sulfuric acid, Alcohols.

Poult, Robert.
IMPROVEMENTS APPLIED TO EVAPORATORS ESPECIALLY FOR SUGAR JUICE. [10 Oct 56] 20p.
Order from OTS or SLA $1.60 63-14875

Trans. of French patent 1,106,011, appl. 9 June 54, granted 13 July 55, pub. 12 Dec 55.

DESCRIPTORS: *Evaporators, *Carbohydrates, Compressors, Liquids, Steam, Operation.

The invention consists mainly and at the same time in recycling by compression the steam produced by one or several evaporation tanks in order to reintroduce the recompressed steam into a tank located above the places, at which steam has been withdrawn and admitted to the compressors. In combining the means of recycling by ejection of live steam and by mechanical compression, means independently known per se, by permitting to correspond to each instantaneous variation of the flow of recycling by ejection an inverse instantaneous variation of the flow of recycling by mechanical compression and, between the putting into or taking out of service of two consecutive ejector-compressors, varying in a preferably automatic manner the flow of recycled steam by the mechanical compressors as a function of the flow in the last pipe for the withdrawal of steam put into service. (Author)

Rieger, Joseph.
SPRAYING LEAKING COKE OVENS. [1963] [4]p.
Order from SLA $1.10 63-16849

Trans. of Glückauf (West Germany) 1950, v. 86, no. 3/4, p. 56-57.

DESCRIPTORS: *Coke, *Furnaces, Maintenance, Sprays, Coatings, Silicon, Clay.

Rozinkina, K.
FLASH VAPORIZATION CURVES FOR GROZNY OILS AND THEIR DISTILLATION PRODUCTS. [1962] 11p. 3 refs.
Order from OTS or SLA $1.60 63-10408

Trans. of Azerbaidzhanskoe Neftyanoe Khozyaistvo (USSR) 1935 [v. 15] no. 1, p. 93-99.

DESCRIPTORS: *Oils, *Petroleum, *Gasoline, *Naphtha, *Kerosene, *Vaporization, Distillation, Test methods.

Savelli, Vittorio.
PROCESS FOR PURIFICATION AND ACTIVATION OF THE COLLOIDAL PROPERTIES OF CALCIUM BENTONITES AND PSEUDO-BENTONITES AND THE PRODUCT RESULTING THEREFROM. [1963] 5p.
Order from OTS or SLA $1.10 63-14534

Trans. of Italian patent 443,057, cl. III, [appl.] 13 Apr 48 [granted] 6 Dec 48.

DESCRIPTORS: *Bentonite, Calcium compounds, Sodium compounds, Manufacturing methods, Purification, Flotation (Separation), Colloids.

Sevon, J. W.
PREPARATION OF ALKALI PHOSPHATE AND DICALCIUM PHOSPHATE FROM PHOSPHATE ROCK. [1963] 5p.
Order from OTS or SLA $1.10 63-14540

Trans. of Swedish patent 113,509, cl. 12:i:31, granted 18 Jan 45, pat. from 26 Sep 40, pub. 20 Mar 45 (appl. 26 Sep 40, 3612/1940) by Kymmene A.G. Co., Kuusankoski, Finland.

DESCRIPTORS: *Phosphates, Rock (Geology), Decomposition, Hydrochloric acid, Sulfuric acid, *Calcium compounds, Manufacturing methods, Alkali metal compounds, Electrolysis, *Phosphorites.

Valgis, V.
HYDROGENATION OF PETROLEUMS; ITS COMMERCIAL APPLICATION AND PROBLEMS. [1962] 9p.
Order from OTS or SLA $1.10 63-10448

Trans. of Azerbaidzanskoe Neftyanoe Khozyaistvo (USSR) 1930 [v. 10, no. 11] p. 4-15.

DESCRIPTORS: *Petroleum, *Hydrogenation, Chemical engineering, Petroleum industry, Hydrogen.

Velikovskii, A. S., ed.
EVALUATION CURVES FOR SOME OILS OF U.S.S.R., PT. 1. TRANSCAUCASIAN OILS. [1962] [13]p.
Order from OTS or SLA $1.60 63-10405

Trans. from mono. Sovetskie Nefti (Soviet Oils) Moscow/Leningrad, 1938, 499p.

DESCRIPTORS: *Oils, Chemical analysis, Distillation, Tables.

Vohl, H.
REGARDING THE DECOMPOSITION OF HEAVY MINERAL OILS DERIVED FROM LIGNITE, PEAT COAL, BITUMINOUS SHALE, PETROLEUM, ETC., FOR THE PURPOSE OF PRODUCING LIGHTER (MORE HYDROGEN CONTAINING) ILLUMINATING OILS (Über die Bersetzung der Schweren Mineralöle aus Braunkohlen, Torf, Bituminösen Schiefern, Petroleum u. zur Erzeugung Leichterer (Wasserstoff-freicherer) Beleuchtungsöle). [1962] [30]p. (foreign text included) 14 refs.
Order from SLA $2.60 63-10444

Trans. of Dinglers Polytechniches Journal (Germany) 1865, v. 177, p. 58-76.

DESCRIPTORS: *Mineral oils, *Decomposition, Peat, Coal, Shale, *Petroleum, *Hydrocarbons, Illumination, *Distillation, Sulfuric acid, Sodium compounds, Hydrates, Limestone, Steam, Heating.

Weisang, E. and Valet, A.
SWEETENING OF PETROLEUM PRODUCTS BY OXIDATION CATALYZED BY SULFUR DYES. [1962] 20p. (figs. omitted).
Order from SLA $1.60 63-10429

Trans. of mono. World Petroleum Congress (no. 5) New York, 1-5 June 59. [Proceedings, 1960] v. 3, paper 16, p. 1-9.

DESCRIPTORS: *Petroleum, *Oxidation-reduction reactions, Dyes, Catalysts, *Thiols.

Civil Engineering

COAL TAR IN CONSTRUCTION AND HIGHWAY ENGINEERING. [1961] 63p. (figs. omitted) 7 refs.
Order from SLA $6.60 61-20953

Trans. of Verkaufsvereinigung fur Teererzeugnisse AG, Essen. Mitteilungen (West Germany) 1956, v. 5, no. 1.

DESCRIPTORS: *Bituminous coatings, Construction, *Roads, *Civil engineering, *Soil mechanics, Soils, Foundations (Structures), Rock (Geology), Binders, *Coal tars.

Contents:
Foreward: Soil stabilization, by H. Neumann
Soil stabilization and road construction, by Josef Berger
Bituminous soil stabilization, by Hans Winterkorn
Bituminous protection of mechanically stabilized base surfaces, by Wilhelm Aichhorn
Soil consolidation with tar on unpaved Sl and S2 of Hamburg-Hanover federal superhighway, by Ernst Herion
Soil consolidation with tar in country, settlement, industrial and woodland road construction, by Lutz Erlenbach
The stabilizing of sands by admixture of tar, by Heinrich Pätzhold.

SELECTED ARTICLES [FROM HYDROTECHNICAL ARCHIVES AND HYDROTECHNICAL PAPERS] tr. by I. Dmowski and others. 1963, 154p. 89 refs. PL-480 Agr.
Order from OTS $1.75 60-21566

Trans. of Archiwum Hydrotechniki (Poland) 1959, v. 6, no. 2, p. 149-151; no. 4, p. 483-487; 1960, v. 7, no. 1, p. 129-136; no. 2, p. 143-209; Rozprawy Hydrotechniczne (Poland) 1957, no. 3, p. 3-83; 1959, no. 6, p. 95-108.

DESCRIPTORS: *Anchors (Structural), Metal plates, *Flowmeters, *Water, Gamma rays, *Soils, Absorption, Density, *Minerals, Mechanical properties, Ion exchange, Soil mechanics, *Sodium compounds, *Silicates, Solutions, *Calcium compounds, *Chlorides, Chemical reactions, Stabilization.

Contents:
The anchoring capacity of plow-shaped plates (model tests) by J. Kwasniewski and T. Szaraniec
Continuous measurement of the level of running water by gamma rays, by J. Makowski
Investigations into the water absorption of soil as measured by the Enslin apparatus, by R. Molisz and E. Paszyc-Stepkowska
Measuring the density of aerated water, by J. Makowski
The effects of the exchangeable ion on the physicomechanical properties of bentonite, by E. Paszyc-Stepkowska
One-solution petrification of sandy soil by means of calcium chloride and water glass, by R. Cebertowicz and R. Molisz
Attempts to explain the reaction between water glass and calcium chloride in the process of soil stabilization, by R. Cebertowicz and others.

Davydov, N. F. and Bondarenko, A. D.
ELECTROTELEMETRIC METHOD OF MEARURING STRAINS IN CONCRETE (Elektrotelemetricheskii Metod Izmereniya Deformatsii v Betone). Oct 62 [14]p. 4 refs. RTS-2164.
Order from $1.60 63-15271

Trans. of mono. Doklady Mezhvuzovskoi Konferentsii po Ispitaniyam Sooruzhenii, Leningrad, 1958, p. 235-245.

DESCRIPTORS: *Concrete, *Measuring devices (Electrical and electronic), *Strain gages, Mechanical properties, Design.

An instrument for measuring the internal strain of concrete is described. The essential components being; (1) an induction-type transducer placed in the concrete during concreting; (2) an audio-frequency oscillator for supplying the gauges with milliamps; (3) an electronic voltmeter measuring device; (4) a coaxial cable type RK-1 or RK-3 of maximum length 50-60m; and (5) a mica or ceramic capacitor. The sensitivity of the whole installation is proportional to the magnitude and frequency of the transducer supply current and the permeability of the core material.

Ermolov, V. V. and Petrov, G. D.
FORMWORK FOR MASSIVE CONCRETE STRUCTURES IN HYDRO DEVELOPMENTS, 2 ED., REV. 1963, 263p. 41 refs. PL-480 Int.
Order from OTS $2.75 61-31069

Trans. of mono. Opalubka Massivnykh Sooruzhenii Gidroelektrostantsii, Moscow/Leningrad, 1954 [348p.].

DESCRIPTORS: *Civil engineering, *Concrete, Structures, *Dams, Hydroelectric power systems, Structural parts, Anchors (Structural), Reinforcing materials, Wood, Construction, Aging, Vacuum apparatus, Hoists, Mathematical analysis, Design

The book deals with problems of the design, construction and erection of formwork for structures of hydroelectric developments. Particular attention is given to the most economic and advanced types of forms, as well as to the mechanization of their manufacture and erection. The book, is intended for engineers and technicians dealing with planning and construction of hydroelectric developments, and also for students of waterpower engineering in universities and technical schools. (Soviet Editors note)

Rathje, Johannes.
PENETRATION ACTION INTO SAND. [1963] 65p. 48 refs. AERDL T-1672.
Available on loan from OTS 63-23000

Trans. from VDI-Forschungsheft (Germany) 1937, no. 350.

DESCRIPTORS: *Earth-handling equipment, *Soil mechanics, *Sand, Penetration, Plasticity, Deformation, Mechanical properties, Tests.

Electrical and Electronic Engineering

ELECTRIC CONTACT FOR LOW VOLTAGE AND LOW CURRENT IN SCALE. 14 June 63, 2p. 1729/56 Japan.
Order from INT $4.50

Trans. of Japanese patent 1729/56 by Hideo Tachibana., filed 5 Oct 54.

DESCRIPTORS: *Electric connectors, *Electric switches, Voltage.

NEW NICKEL-ZINC BATTERY [Novyi Nikel'-Tsinkovyi Akkumulyator]. May 63, 750 words.
Order from TTIS $6.00 TTIS NS 71

Trans. of Vestnik Elektropromyshlennosti (USSR) 1963 [v. 34, no. 2] p. 74-75.

DESCRIPTORS: *Batteries and components, Nickel alloys, Zinc alloys.

Aleksandrov, G. N., Kizevetter, V. E. and others.
DIE ÜBERSCHLAGSSPANNUNGEN VON LANGEN LUFTSTRECKEN UND VON ISOLATOR-KETTEN BEI WECHSELSTROM (The A. C. Flashover Voltages of Long Air-Gaps and Strings of Insulators). 11p.
Order from TIB $2.00

Trans. in German of Electrichestvo (USSR) 1962, no. 5, p. 27-32.

DESCRIPTORS: *Voltage, Insulating materials, *Alternating current, *Gas discharges, Air.

Alekseev, A. N.
POSTES DE HORMIGON ARMADO PARA LINEAS DE CONDUCCION DE ENERGIA ELECTRICA DE 35-400 KV (Zhelezobetonnye Opory dlya Linii Elektroperedachi 35-400 kv) Reinforced Concrete Poles for 35-400 kv Electric Power Transmission Lines). 18p. CID: 62-285
Order from OTS , ETC or CID $0.80 62-29285

Trans. in Spanish of Elektricheskie Stantsii (USSR) 1956, v. 27, no. 3, p. 32-36.

DESCRIPTORS: *Reinforced concrete, Cable supports, Electric cables, Transmission lines.

Belyakov, N. N. and Sherentsis, A. N.
DER BLITZÜBERSPANNUNGSSCHUTZ VON ÜBERTRAGUNGSLEITUNGEN IN MODERNEN NETZEN (The Protection of Transmission Lines against Lightning Overvoltage in Modern Systems). 19p.
Order from TIB $2.95

Trans. in German of Elektrichestvo (USSR) 1960, no. 11, p. 33-41.

DESCRIPTORS: *Transmission lines, *Lightning, arrestors, Voltage.

Chesnokov, A. E.
ÜBER DIE THEORIE UND DIE BERECHNUNG DES ELEKTROMAGNETISCHEN VIBRATORS (On the Theory and Calculation of the Electromagnetic Vibrator). 10p.
Order from TIB $1.80

Trans. in German of Elektrichestvo (USSR) 1961, no. 12, p. 37-40.

DESCRIPTORS: Theory, Electromagnetism, *Vibrators (Electrical).

Chilikin, M. G., Sandler, A. S., and Shapiro, L. Y.
EINE DOPPELMOTOR-VENTIL-MASCHINEN-KASKADE MIT HALBLEITER-GLEICHRICHTER (A Double-Motor-Valve-Machine-Cascade with Semiconductor-Rectifiers). 11p.
Order from TIB $2.00

Trans. in German of Elektrichestvo (USSR) 1961, no. 8, p. 50-56.

DESCRIPTORS: *Electric motors, Valves, Machines, *Semiconductors, *Rectifiers.

Degil, G. S.
THE EFFECT OF A LACQUER COATING ON ROTOR HEATING. [1963] 3p. 1 ref. [DSIR] NLL M. 3727.
Order from OTS or SLA $1.10 63-19825

Trans. of Elektricheskie Stantsii (USSR) 1962, v. 33, no. 1, p. 81-82.

DESCRIPTORS: *Varnishes, Corrosion inhibition, *Generators, Power equipment parts, Heating, Maintenance.

During periodic major overhauls on turbogenerators in which the rotor temperature is above the permissible level, it is necessary to examine the condition of the rotor shaft surface, and if the lacquer covering is found to be thick (more than 0.1 mm.) it must be removed and the clean surface of the rotor shaft must be sprayed with a thin, even layer of No. 83 air-drying enamel. The removal of a thick layer of lacquer from the rotors ought to be regarded as a means of improving generator working, and not as a means of increasing power. (Author)

Detinko, V. N. and Petrov, A. S.
FORCED OSCILLATIONS IN AN ELECTRICAL CIRCUIT WITH A NONLINEAR CAPACITOR. 21 May 63 [15]p. 1 ref. FTD-TT-63-476.
Order from OTS or SLA $1.60 63-23107

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Fizika (USSR) 1962, no. 6, p. 90-98.

DESCRIPTORS: *Oscillators, *Circuits, *Capacitors, Electrical engineering, Nonlinear systems.

An examination was made on oscillatory system with a nonlinear capacitor excited by two sources of harmonic oscillations with clearly discernable frequencies. (Author)

Dorofeev, G. I.
EFECTO SUPERFICIAL EN EL CONDUCTOR DE DOBLE CAPA (Poverkhnostnyi Effekt v Dvukhsloinom Provodnike) (Surface Effect of the Double Layer Conductor). 9p. 2 refs. CID: 62-277.
Order from OTS, ETC or CID $0.80 62-29277

Trans. in Spanish of Elektrichestvo (USSR) 1956, no. 8, p. 31-32.

DESCRIPTORS: Electrical conductance, Surface properties.

Fetisov, V. V.
DIE BERECHNUNG DER KOMMUTIERUNGSRÜCKWIRKUNG IN GLEICHSTROMMASCHINEN BEI EINER BÜRSTENÜBERDECKUNG GRÖSSER ALS 1 (Calculation of the Commutation Reaction in Direct-Current Machines with a Brush Overlap Higher than 1). 11p.
Order from TIB $2.00

Trans in German of Elektrichestvo (USSR) 1960, no. 5, p. 46-50.

DESCRIPTORS: *Direct current, Machines.

Fleishman, L. S.
EINE SECHSPHASENSCHALTUNG MIT NEUEN VENTILEN FÜR HOCHLEISTUNGSGLEICHRICHTER (A Six-phase Connection with Nine Valves for Power Rectifiers). 12p.
Order from TIB $2.10

Trans. in German of Elektrichestvo (USSR) 1961, no. 5, p. 58-62.

DESCRIPTORS: Valves, *Rectifiers, Power.

Gel'fand, Ya. S.
DIE UNTERSUCHUNG VON ÜBERGANGSVORGÄNGEN IN STROMWANDLERN AN ANALOGRECHNERN (Investigation of Transition Processes in Current Transformers at Analog Computers). 8p.
Order from TIB $1.55

Trans. in German of Elektrichestvo (USSR) 1961, no. 12, p. 40-44.

DESCRIPTORS: Electric currents, *Transformers, *Analog computers, Power transformers.

Gorbachev, A. A.
IMPROVING THE INTERFERENCE PROTECTION OF RADIO RECEPTION OF AM-SIGNALS BY EMPLOYING NONLINEAR FEEDBACKS IN THE HIGH FREQUENCY PART OF RECEIVING INSTALLATION. 9 May 63 [11]p. 6 refs. FTD-TT-63-477.
Order from OTS or SLA $1.60 63-23112

Unedited rough draft trans. of #Radiotekhnika (USSR) 1963, v. 18, no. 2, p. 37-42.

DESCRIPTORS: *Radio interference, *Suppressors, Radio signals, Amplitude modulation, Nonlinear systems, Feedback, High frequency, Radio receivers.

Explained is the nature of the method of suppressing pulse interferences, based on the use of threshold feedbacks in the high frequency part of the receiving installation. Results of the experiment are listed. (Author)

Greisukh, M. V.
NECESIDAD DE ESTABLECER PRECIOS ADECUADOS PARA EL EQUIPO ELECTRICO Y LOS TRABAJOS DE MONTAJE Y CONSTRUCCION (Pravil'no Ustanavlivat' Tseny na Elektrooborudovanie i Montazhno-stroitel'nye Raboty) (The Need of Establishing Adequate Electrical Equipment Prices and Assembly and Erection Costs of Same). 6p. 2 refs. CID: 62-281.
Order from OTS, ETC or CID $0.80 62-29281

Trans. in Spanish of Elektrichestvo (USSR) 1958, no. 3, p. 65-66.

DESCRIPTORS: Costs, Electrical industry, *Electrical equipment.

Greissukh, M. A.
ENTLADUNGSGESETZE BEI GLEICHSPANNUNG LÄNGS DEN SCHICHTEN DES ÖLGETRÄNKTEN PAPIERS FÜR DIE GERÄTEISOLATION (Discharge Laws on Direct Voltage along the Layers of Oiled Paper for the Insulation of Instruments). 10p.
Order from TIB $1.80

Trans. in German of Elektrichestvo (USSR) 1960, no. 7, p. 77-82.

DESCRIPTORS: Voltage, Oils, Paper, *Electric insulation, Instrumentation.

Hoffmann, T. A.
THE FUNDAMENTAL PHYSICAL PRINCIPLES OF THE PHOTOTRON. [1962] 14p. (figs. omitted) 3 refs.
Order from SLA $1.60 63-10249

Trans. of mono. Congress of the Physical Society in the German Democratic Republic, Jena, Oct 60. Optics and Spectroscopy of All Wavelengths, p. 529-541.

DESCRIPTORS: *Microwave amplifiers, Microwave oscillators, Modulators, Optical properties, Molecular electronics, *Lasers, Masers.

Ilyukovich, A. M.
KOMPENSATION DES TEMPERATURFEHLERS VON INDUKTIONSZÄHLERN UND WATTMETERN MIT TEMPERATURABHÄNGIGEN HALBLEITERWIDERSTÄNDEN (Compensation of the Temperature Fault of Induction Meters and Wattmeters with Temperature-Dependent Semiconductors Resistances).
Order from TIB $1.55

Trans. in German of Elektrichestvo (USSR) 1960, no. 8, p. 76-79.
Another trans. is available in English from OTS or SLA $1.10 as 62-23922, DSIR NLL M.3326 [1962] [10]p.

DESCRIPTORS: Temperature, *Wattmeters, *Semiconductors, *Thermistors, Power meters, Resistors, Errors, Electricity, Thermoelectricity.

Imbritskii, M. I.
RACIONALIZACION DE LA REPARACION DE ACCESORIOS Y ELEMENTOS DE CENTRALES ELECTRICAS (Ratsionalizatsiya Remonta Armatury) (Standardisation of Power Plant Spares and Elements). 12p.
CID: 62-213.
Order from OTS, ETC or CID $0.80 62-29213

Trans. in Spanish of Elektricheskie Stantsii (USSR) 1955, [v. 26] no. 2, p. 14-17.

DESCRIPTORS: Standardization, *Power plants, Maintenance.

Ipatenko, N. R.
DIE DYNAMISCHE STABILITÄT VON SYNCHRONMOTOREN UND SYNCHRONISIERTEN ASYNCHRONMOTOREN MIT VERBUNDERREGUNG BEI STOSSWEISER BELASTUNG (The Dynamic Stability of Synchronous Motors and Synchronized Asynchronous Motors with Compound Excitation during Pulsating Load). 6p.
Order from TIB $1.30

Trans. in German Elektrichestvo (USSR) 1960, no. 9, p. 59-62.

DESCRIPTORS: Dynamics, Stability, *Synchros, Induction motors, Excitation.

Jordan, Heinz.
MAGNETIC NOSIE IN THREE PHASE CORE TRANSFORMERS (Über den Magnetischen Lärm von Drehstrom-Kerntransformatoren). [1963] [18]p. (foreign text included) 3 refs.
Order from SLA $1.60 63-16700

Trans. of ETZ [Elektrotechnische Zeitschrift. Ausgabe] A. [Zentralblatt für Elektrotechnik] (West Germany) 1960, v. 81, no. 3, p. 97-101.

DESCRIPTORS: *Phase transformers, *Noise, *Magnetostriction, Magnetic cores, Oscillation.

After a brief description of the physics of the generation of sound in transformers, the technical problem was posed. The magnetostrictive tensions were defined and excitation forces analyzed. By means of a suitable separation of the excitation forces it is possible to calculate in advance the unavoidable deformations at double the line frequency with the help of the fundamentals of strength of materials. The higher harmonics in the magnetostrictive spectrum excite under certain natural frequencies and modes whose determination can be illustrated by means of structural diagrams. (Author)

Kalinin, E. V.
CARACTERISTICAS MECANICAS Y ELECTRICAS DE LOS AISLADORES TIPO SP-110 (Elektricheskie i Mekhanicheskie Kharakteristiki Sterzhnevykh Izolyatorov Tipa SP-110) (Mechanical and Electrical Characteristics of Type SP-110 Insulators). 11p. 6 refs. CID: 62-224.
Order from OTS, ETC or CID $0.80 62-29224

Trans. in Spanish Elektricheskie Stantsii (USSR) 1956, [v. 27] no. 10, p. 55-57.

DESCRIPTORS: Electrical properties, Mechanical properties, *Electric insulation.

Khurshudyan, L. M.
RELEVADOR UNIVERSAL DE LA VELOCIDAD DE ROTACION (Universal'noe Rele Skorosti Vrashcheniya) (Universal Rotating Speed Relay). 8p. CID: 62-245.
Order from OTS, ETC or CID $0.80 62-29245

Trans. in Spanish of Elektricheskie Stantsii (USSR) 1958 [v. 29] no. 8, p. 83-84.

DESCRIPTORS: Rotation, Velocity, *Relays, *Electric relays.

Klimov, N. S.
WECHSELSTROM-GLEICHSTROM-LEISTUNGSUMFORMER (Power Transformers for Alternating Current and Direct Current). 9p.
Order from TIB $1.70

Trans. in German of Elektrichestvo (USSR) 1960, no. 9, p. 29-34.
An unedited rough draft trans. in English is available from OTS or SLA $1.60 as 62-23360, MCL-1224, 17 Aug 61 [15]p.

DESCRIPTORS: Transformers, *Alternating current, *Direct current. *Power transformers, *Rectifiers, Switching circuits.

Kotelevtsev, V. G. and Lysakovskii, G. I.
LA SEGURIDAD EN LA EXPLOTACION DE LOS AISLADORES TIPO SP-110 (Ekspluatatsionnaya Nadezhnost' Sterzhnevykh Izolyatorov Tipa SP-110) (Safety in Tyep SP-110 Insulators Operation). 10p. 2 refs. CID: 62-222.
Order from OTS, ETC or CID $0.80 62-29222

Trans. in Spanish of Elektricheskie Stantsii (USSR) 1956 [v. 27] no. 10, p. 57-58.

DESCRIPTORS: *Insulating materials, Operation, Electric insulation.

Krachkovskii, N. N.
SOBRE LAS TENSIONES NORMALES PARA EL TRANSPORTE DE ENERGIA ELECTRICA A GRANDES DISTANCIAS (O Nominal'nykh Napryazheniyakh dlya Dal'nikh Elektroperedach) (Normal Voltages Employed in the Long-Distance Transportation of Electricity). 23p. 3 refs. CID: 62-278.
Order from OTS, ETC or CID $0.89 62-29278

Trans. in Spanish of Elektrichestvo (USSR) 1956, no. 10, p. 6-12.

DESCRIPTORS: Voltage, *Electrical networks, Electricity.

Kraitsberg, M. I. and Kaminskaya, D. A.
INVESTIGATION OF THE DYNAMICS OF ELECTRIC DRIVES FOR LIFTING AND TRACTION IN THE 3 I-0 8/60 EXCAVATOR. [1963] 6p. [DSIR] NLL M. 3963.
Order from OTS or SLA $1.10 63-19866

Trans. of Vestnik Elektropromyshlennosti (USSR) 1962 [v. 33] no. 6, p. 38-40.

DESCRIPTORS: *Electromagnetic drives, *Excavators, Dynamics, Control systems.

The stabilising capacity, guaranteeing the stable transition process under stopping conditions is determined by the reverse link parameters $K\Phi$, β and α. The stabilising capacity, guaranteeing the stable transition process under working conditions, does not exceed values, determined during research into the stability under stopping conditions. The stabilising capacity device, in practice, does not effect the quick-response of drives (at values of capacities 250-500 microfarad). The transition process of drive at no-load is stable without use of stabilising devices. With an increase of fixed reverse voltage link the transition process in it is oscillating, which impairs the voltage rise in generator, making it uneven. By introducing stabilising capacity the quality of this process is improved. When using the simplified control systems the transition processes, in practice, do not differ from processes under the normal systems. The stabilising capacity under the simplified system is several times greater than under normal. For traction and walking drives the setting of stability of the drive shall be carried out for walking conditions. (Author)

Krechkov, A. P.
EMPLEO DE TRANSFORMADORES DE SOLDADURA PARA LA VARIACION DE LA TENSION DE LA CORRIENTE ALTERNA (Ispol'zovanie Svarochnykh Transformatorov dlya Polucheniya Peremennogo Toka Razlichnykh Napryazhenii) (Utilisation of Welded Transformers for Alternating Current Voltage Variations). 6p. CID: 62-205.
Order from OTS, ETC or CID $0.80 62-29205

Trans. in Spanish of Energetik (USSR) 1959, [v. 7] no. 12, p. 25-26.

DESCRIPTORS: *Transformers, Voltage, *Alternating current.

Livanova, O. V. and Shatrova, S. G.
ÜBER DIE ERWÄRMUNG DES MASSIVEN LÄUFERS EINES SYNCHRONMOTORS BEIM ANLASSEN (Heating of the Massive Armature of a Synchronous Motor during Starting). 6p.
Order from TIB $1.30

Trans. in German of Elektrichestvo (USSR) 1962, no. 2, p. 56-58.

DESCRIPTORS: Starting, Heating, *Armatures, *Synchros.

Losev, S. B.
ON THE PROBLEM OF PROVIDING DISTANCE PROTECTION AGAINST ALL TYPES OF MULTIPHASE LINE FAULTS. [1963] [19]p. 5 refs. [DSIR] NLL M. 3726.
Order from OTS or SLA $1.60 63-19826

Trans. of Elektrichestvo (USSR) 1960, no. 12, p. 47-58.

DESCRIPTORS: *Transmission lines, Electric cables, *Failure (Mechanics), *Electric relays, Analysis.

Luk'yanov, S. Yu.
SURVEY OF VACUUM PHOTOTUBES. [1963] [47]p. 77 refs. AERDL T-1678; AD-404 234.
Order from OTS or SLA $4.60 63-19569

Trans. of [Zhurnal Tekhnicheskoi Fiziki (USSR) 1943] v. 13, no. 1/2, p. 3-34.

DESCRIPTORS: *Phototubes, Manufacturing methods, *Cathodes, *Photoelectric materials, Oxygen, Antimony, *Cesium, Design, *Electroluminescence, Spectroscopy, Electrical properties.

Maslennikov, N. M., Sakovich, A. A. and Andreev, V. D.
UNTERSUCHUNG DER ZÜNDUNG DES UNTERTEILTEN HOCHSPANNUNGS-STROMRICHTERS (The Ignition of a Sectionalized High Voltage Valve). 12p.
Order from TIB $2.10

Trans. in German of Elektrichestvo (USSR) 1960, no. 6, p. 25-29.
Another trans. is available in English from OTS or SLA $1.10 as 62-25924, CE Trans-2287 [1962] [8]p.

DESCRIPTORS: Ignition, Voltage, *Rectifiers, Transmission lines, Electrical equipment, *Valves, *Mercury electrodes.

Mel'gunov, N. M. and Kvyatkovskii, V. M.
EINIGE PROBLEME, DIE MIT DEM BETRIEB DER GLEICHSTROMÜBERTRAGUNG STALINGRAD-DONEZBECKEN ZUSAMMENHÄNGEN (Some Problems of the Operation of the D. C. Transmission Line, Stalingrad Hydroelectric Station to Donbass). 11p.
Order from TIB $2.00

Trans. in German of Elektrichestvo (USSR) 1961, no. 3, p. 14-17.
Other translations are available in English from OTS $1.75 in 61-31550, JPRS-8650, 31 July 61, 60p. and from OTS or SLA $1.10 as 62-13149, DSIR NLL M. 4330 [1961] [7]p.

DESCRIPTORS: *Hydroelectric power systems, Direct current, *Transmission lines, Operation.

Menskii, B. M.
DER ÜBERGANGSPROZESS IN EINEM KREIS MIT INDUKTIVITÄTEN UND EINER GLEICHRICHTERBRÜCKE (A Method of Reducing Transient Phenomena in Circuits with Inductance Coils and Semiconductor Rectifiers). 6p.
Order from TIB $1.30

Trans. in German of Elektrichestvo (USSR) 1961, no. 4, p. 58-61.

DESCRIPTORS: *Circuits, *Rectifiers, *Electric bridges, Inductance, *Semiconductors.

Moldaver, A. I.
ON THE INCREASE OF TORQUE OF INDEPENDENTLY EXCITED D. C. MOTORS AT LOW TEMPERATURES. [1962] 5p.
Order from RIS $8.00 RIS E-774

Trans. of Vestnik Elektropromyshlennosti (USSR) 1960, v. 31, no. 8, p. 66-68.

DESCRIPTORS: *Direct current, *Electric motors, *Torque, Temperature, Standards, Electric insulation.

Nasledov, D. N. and Sotova, N. V.
GERÄT ZUR MESUNG VON GLEICHSTRÖMEN BIS 40 kA (An Instrument for Measuring Direct Currents up to 40 kA).
Order from TIB $1.55

Trans. in German of Elektrichestvo (USSR) 1961, no. 3, p. 70-73.

DESCRIPTORS: Instrumentation, Measurement, *Direct current.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
RELIABILITY AND QUALITY CONTROL. Sep 62, 36p. 748 refs. OTS Selective Bibliography SB-405, rev.
Order from OTS $0.10 OTS SB-405, rev.

DESCRIPTORS: *Reliability (Electronics), *Quality control, *Bibliographies, Human engineering, Statistical processes, Mathematical models.

Lists 748 reports and translations added to the OTS collection during the period 1950 through September 1962. Covers research on system reliability studies, predicting reliability, environmental experiments and testing, human factors in reliability, statistical techniques and mathematical models, reliability of ground electronic equipment and other devices. Also includes quality control for complex items, continuous quality control sampling, statistical methods for quality control among other subjects. (Author)

Pistrak, A. I. and Balabuev, L. M.
ELEKTRONISCHE ERREGUNG FÜR MASCHINEN IM HAUPTANTRIEB VON UMKEHRWALZWERKEN (Electronic Energization for Machines in the Main Gear of Reversing Mills). 19p.
Order from TIB $2.95

Trans. in German of Elektrichestvo (USSR) 1960, no. 4, p. 13-20.

DESCRIPTORS: *Electronics, Machines, *Gears, Rolling mills.

Polikovskii, V. I. and Sergievskaya, T. G.
OPERATING CHARACTERISTICS OF AXIAL FANS IN COOLING SYSTEMS IN LARGE ELECTRICAL MACHINES. [1963] [15]p. 3 refs. [DSIR] NLL M. 3857.
Order from OTS or SLA $1.60 63-19894

Trans. of Vestnik Elektroprom[yshlennosti] (USSR) 1961, v. 32, no. 12, p. 26-32.

DESCRIPTORS: *Axial flow fans, Cooling fans, *Electric motors, *Generators, Gas flow, Design.

Popov, N. A. and Rakhovskii, V. I.
THE PROBLEM OF CERMET DEPLETION BY HIGHLY VOLATILE COMPONENTS DURING HEATING IN A VACUUM. 16 May 63 [10]p. 7 refs. AID rept. T-63-72; AD-405 032.
Order from OTS or SLA $1.10 63-19580

Trans. of paper presented at the Conference on Heat and Mass [Transfer] Minsk [5-10] June 61.

DESCRIPTORS: *Cermets, *Heat-resistant materials, *Electric switches, *Vacuum switches, Alloys, Tungsten, Silver, Copper, Evaporation, High-temperature research.

Pulavskaya, Y. G.
UBERSCHLAG LANGS EINER ISOLATORENKETTE BEI STOSS SPANNUNG (Spark-Over Along a String of Insulators at Impact Potential). 13p.
Order from TIB $2.20

Trans. in German of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1961, no. 1, p. 24-31.

DESCRIPTORS: *Sparks, *Insulating materials, Electric potential, Electric insulation.

Rohwer, K.
A TRAVELING-WAVE TUBE FOR 3 KILOWATT CONTINUOUS POWER IN THE RANGE OF DECIMETER WAVES (Eine Wanderfeldröhre für 3kW Dauerleistung im Gebiet der Dezimeterwellen). [1963, 10]p. (foreign text included) 1 ref.
Order from SLA $1.10 63-18352

Trans. of Nachrichtentechnische Fachberichte (West Germany) 1961, v. 22, p. 1-3.

DESCRIPTORS: *Traveling-wave tubes, High frequency, Coupling circuits, Attenuators, Design, Operation.

Rol'nik, M. A.
INTRINSICALLY SAFE TELEPHONE D. C. RELAYS (Iskrobezopasnye Telefonnye Rele Postoyannogo Toka) tr. by F. M. Janus. Apr 62 [5]p. S. M. R. E. Trans. no. 4688; [DSIR] NLL M. 3782.
Order from OTS or SLA $1.10 63-19776

Trans. of Ugol' Ukrainy (USSR) 1962, v. 6, no. 1, p. 38-39.

DESCRIPTORS: *Electric relays, Direct current, *Telephone equipment, Safety, Dry disk rectifiers, Coils, Capacitors.

Rotkop, L. L.
INDICES ENERGETICOS DE UN MOTOR DE INDUCCION EN EL SISTEMA DE REGULACION DE LA VELOCIDAD POR IMPULSOS (Energeticheskie Pokazateli Asinkhronnogo Dvigatelya v Sisteme Impul'snogo Regulirovaniya Skorosti) (Induction Motor Power Rates in the Impulse Speed Control System). 18p. 7 refs. CID: 62-283.
Order from OTS, ETC or CID $0.80 62-29283

Trans. in Spanish of Elektrichestvo (USSR) 1958, no. 11, p. 38-42.
Another trans. is available in English from PP $14.00 in Electric Technology USSR, v. 4.

DESCRIPTORS: Power, *Induction motors, Speed regulators, Control systems.

Sabinin, Yu. A., Bochakov, Yu. I. and others.
MOTOR ELECTRICO CON SUAVE REGULACION DE VELOCIDAD ENTRE LIMITES AMPLIOS (Elektroprivod s Plavnym Regulirovaniem Skorosti v Shirokikh Predelakh) (Smooth Speed Regulation Control Electric Motor). 17p. CID: 62-280.
Order from OTS, ETC or CID $0.80 62-29280

Trans. in Spanish of Elektrichestvo (USSR) 1957, no. 12, p. 20-23.

DESCRIPTORS: *Electric motors, Speed regulators.

Savel'ev, V. P. Shmatovich, V. V. and others.
KOMBINIERTER VENTILABLEITER FUR 500kV (A Combined Valve Conductor 500 kV). 16p.
Order from TID $2.60

Trans. in German of Elektrichestvo (USSR) 1961, no. 4, p. 13-20.
Other translations are available in English from OTS or SLA $260 as 63-14930 [20]p. and $1.60 as 62-19129, DSIR NLL M. 4672 [11]p.

DESCRIPTORS: *Lightning arrestors, *Switching circuits, *Voltage, Transmission lines, Valves, Magnetic properties.

Sorri, E. A.
SIGNAL-TO-NOISE RATIO IN THE PLAYBACK CHANNEL OF A MAGNETIC RECORDING SYSTEM. [1963] 12p.
Order from ATS $14.85 ATS-35Q69R

Trans. of Tekh[nika] Kino i Televid[eniya] (USSR) 1962, v. 6, no. 6, p. 10-17.

DESCRIPTORS: *Signal-to-noise ratio, *Channel selectors, *Magnetic recording systems.

Stepanov, D. S.
THE DETERMINATION OF OBSOLESCENCE IN THERMAL POWER STATIONS (A DISCUSSION). [1963] 12p. 5 refs. [DSIR] NLL M. 3861.
Order from OTS or SLA $1.60 63-19890

Trans. of Teploenergetika (USSR) 1961, v. 8, no. 12, p. 21-26.

DESCRIPTORS: *Steam power plants, *Electric power production, Electrical industry, *Economics, Power plants (Establishments).

The author examines proposals for determining the point at which a thermal power-station becomes

virtually worn out. He expounds a system of technical and economic calculations for determining the onset of obsolescence in a thermal power-station, i.e. the point at which it becomes economically expedient to withdraw the power-station from active service in the energy system. (Author)

Tikhodeev, N. N. and Tushnov, N. N.
ELEKTRISCHE EIGENSCHAFTEN LANGER ISOLATORENKETTEN DER FERNLEITUNGEN MIT EINER SPANUNG VON 500 kV UND DARUBER (Electric Properties of Long Insulator Chains of Long-Distance Lines with a Voltage of 500 kV and More).
Order from TIB $2.10

Trans. in German of Elektrichestvo (USSR) 1960, no. 7, p. 56-61.
Another trans. is available in English from LC or SLA mi$2.40, ph$3.30 as 60-18764 [1960] [12]p.

DESCRIPTORS: Electric properties, Insulating materials, *Transmission lines, Voltage, *Electric insulation

Tulin, V. S.
TENDENCIAS TECNICAS CONTEMPORANEAS EN LOS MOTORES ELECTRICOS DE LA INDUSTRIA MINERA (Sovremennye Tekhnicheskie Tendentsii v Gornom Elektroprivode) Contemporary Technical Trends in Electric Motors Employed in the Mining Industry). 19p. CID: 62-276.
Order from OTS ETC or CID $0.80 62-29276

Trans. in Spanish of Elektrichestvo (USSR) 1955, no. 8, p. 57-62.

DESCRIPTORS: Mining engineering, *Electric motors.

Veith, H.
EFFECT OF MOISTURE ON ELECTRICAL CHARACTERISTICS OF CAPACITORS (Einfluss der Feuchte auf die Elektrischen Kenngrössen von Kondensatoren). [1963] 16p. (foreign text included) 2 refs.
Order from SLA $1.60 63-16704

Trans. of [NTZ] Nachrichtentechnische Zeitschrift (West Germany), 1960 [v. 13] no. 11, p. 519-523.
Another trans. is available from ATS $16.85 as ATS-93N57G [1961] 10p.

DESCRIPTORS: *Capacitors, *Moisture, Electrical properties.

Vodop'yanov, K. A., Vorozhtsov, B. I. and others.
ELEKTROPHYSIKALISCHE EIGENSCHAFTEN VON HANDELSÜBLICHEN ELEKTRISCHEN ISOLIERSTOFFEN BEI RADIOAKTIVER BESTRAHLUNG (Electrophysical Properties of Commercial Electric Insulating Material during Radioactive Irradiation). 14p.
Order from TIB $2.35

Trans. in German of Elektrichestvo (USSR) 1960, no. 5, p. 60-66.
Other translations are available in English from PP $14.00 and OTS or SLA $2.60 as 61-23526, DSIR LLU M. 2686 (1961) (24)p. and as 61-23295, DSIR LLU M. 2709, $2.60.

DESCRIPTORS: *Electric insulation, *Insulating materials, *Radiation damage, Radioactivity.

Volkov, N. P., Ermolaev, I. S., and Rodionov, V. A.
MAGNETOELECTRIC INDUCTION CONVERTER WITH A HIGH-FREQUENCY COIL. [1962] 4p. 4 refs.
Order from RIS $8.00 RIS E-772

Trans. of #Priborostroenie (USSR) 1960, no. 9, p. 19-20.

DESCRIPTORS: High frequency, *Coils, Frequency converters, Electromagnetic properties, *Galvanometers, Design, Induction generators.

Mechanical Engineering

Berman, L. D. and Fuks, S. N.
IMPROVING THE WATER-TIGHTNESS OF STEAM TURBINE CONDENSERS FOR INSTALLATIONS WITH SUPER-HIGH AND SUPERCRITICAL STEAM PARAMETERS [Obespechenie Vysokoi Vodyanoi Plotnosti Kondensatorov Parovykh Turbin dlya Blochnykh Elektrostantsii na Sverkhkriticheskie Parametry para] tr. by J. K. Skwirzynski. Apr 62 [13]p. [DSIR] NLL M.3864.
Order from OTS or SLA $1.60 63-19888

Trans. of Teploenergetika (USSR) 1958 [v. 5, no. 10, p. 90-95].

DESCRIPTORS: *Steam pipes, Metal plates, Metal joints, *Steam condensers, Steam turbines, Mechanical working, Hydraulic seals, Alloys, Coatings, Corrosion inhibition.

Various methods are examined for sealing the connections of condenser tubes with tube plates and for preventing damages to tubes arising from breakdown in the water-tightness of condensers.

Rosahl, O.
FLOW, IGNITION AND COMBUSTION IN THE COMBUSTION CHAMBERS OF MODERN LARGE STEAM GENERATORS. [1963] 27p. (figs. omitted) 18 refs.
Order from SLA $2.60 63-16230

Trans. of Verein Deutscher Ingenieure. Zeitschrift (West Germany) 1951, v. 93, no. 2, p. 25-36.

DESCRIPTORS: Gas flow, *Ignition, *Combustion, Combustion chambers, Combustion chamber gases, *Steam power plants, Boilers, *Fuel injection, Coal, Fuels.

Rymkevich, A. A.
METODO PARA DETERMINAR LA CANTIDAD DE GASES QUE SE ESCAPAN POR EL SEGMENTO AL CARTER (Metodika Opredeleniya Kolichestva Gazov, Probivayushchikhsya Cherez Kol'tsa v Karter) (System for the Determination of Gas-Leak Amount in the Crankcase Segment). 19p. CID: 62-284.
Order from OTS, ETC or CID $0.80 62-29284

Trans. in Spanish of Energeticheskii Byulleten' (USSR) 1956, no. 11 p. 18-23.

DESCRIPTORS: *Combustion chamber gases, Oil tanks.

Serebryanikov, N. I. and Belyankina, Z. P.
REMOVAL OF BUILD UP BY SALTS ON TURBINE STAGES OPERATING IN A UNIT WITH ONCE THROUGH BOILERS. [1962] [6]p. 1 ref. C. E. Trans. 2550; [DSIR] NLL M. 8821.
Order from OTS or SLA $1.10 62-32811

Trans. of Teploenergetika [Energeticheskii Institut] (USSR) 1961, no. 3, p. 63-66.

DESCRIPTORS: *Steam turbines, *Boilers, *Pipes, Feed water, Salts, Steam, Desalination.

Ordnance, Missiles, and Satellite Vehicles

NEW ERA IN THE HISTORY OF WORLD SCIENCE: SOVIET MOON. [1963] [7]p.
Order from OTS or SLA $1.10 63-16053

Trans. of Grazhdanskaya Aviatsiya (USSR) 1957 [v. 14] no. 10 [p. 13-14].

DESCRIPTORS: *Satellites (Artificial), Launching, Orbital trajectories, Instrumentation, Design.

Andreev, K. K.
THE MAIN FACTORS DETERMINING THE DANGER OF EXPLOSIVES UNDER MECHANICAL INFLUENCES, AND METHODS FOR ITS ESTIMATION. [1963] [8]p. 4 refs.
Order from OTS or SLA $1.10 AEC-tr-5654

Trans. of #Zhurnal Prikladnoi Khimii (USSR) 1962, v. 35, no. 9, p. 1956-1960.

DESCRIPTORS: *Explosive materials, Heating, Pressure, Sensitivity, Flammability, Measurement, Ignition, *Detonation, *Combustion, Deformation.

The fundamental properties of an explosive which determine its danger under mechanical influences are the thermokinetic characteristics, manifested in the critical combustion and detonation diameters. The possibility of heating and pressure, sufficient to initiate combustion, arising under mechanical influences depends on the actual deformation conditions and on the fluidity of the substance. It is usually higher with substances of low fluidity and can be assessed by the action of a sliding impact in kozlov's apparatus. (Author)

Blinov, I. F.
DANGER D'EXPLOSION DES DINITROCOMPOSÉS DE LA SÉRIE DU BENZENE (The Danger of Explosion of Dinitro Compounds of the Benzene Series). 21p. 32 refs.
Order from OTS, ETC or CNRS $0.83 62-26986

Trans. in French of Khimicheskaya Promyshlennost' (USSR) 1959, no. 5, p. 419-425.
Another trans. is available in English from OTS or SLA $1.60 as AEC-tr-5528, 1962 [14]p.

DESCRIPTORS: *Benzenes, *Nitro radicals, Phenols, Toluenes, Explosions, Experimental data, *Detonation.

Raulien, Heinz.
MILITARY APPLICATIONS OF CYBERNETICS. 26 July 63, 162p. refs. JPRS: 20343.
Order from OTS $3.00 63-31377

Trans. of mono. [Kybernetik im Militärwesen] East Berlin, 1963, p. 5-247.

DESCRIPTORS: *Cybernetics, *Armed forces operations, Automation, Control, Control systems, Antiaircraft guns, Computers, Analog computers, Digital computers, Antiaircraft fire control systems, Armed forces (Foreign), Data transmission systems, Data processing systems.

Topics include: Technology and military matters; basic principles of cybernetics in Technology; application of control and regulation - techniques in military technology; principles of modern computer technics; anti-aircraft fire control systems; electronic computers as simulators; electronic computers in business; computers in the air defense system of a country; anticipation in combat and the theory of probability in tactics; problems in the transmission of information; preventing interruptions in the chain of command; data processing in rear-area services; and, general requirements for automation in military matters.

Zaitsev, V. M., Pokhil, P. F., and Shvedov, K. K.
AN ELECTROMAGNETIC METHOD FOR MEASURING THE VELOCITY OF EXPLOSION PRODUCTS. [1963] 5p. 6 refs. NCB Trans. A. 2023/SEH; [DSIR] NLL M. 3908.
Order from OTS or SLA $1.10 63-19935

Trans. of Akad[emiya] Nauk SSSR. Doklady 1960, v. 132, no. 6, p. 1339-1340.
Another trans. is available from OTS or SLA $1.10 as 60-41737, JPRS-7002, 3 Nov 60, 4p. 6 refs.

DESCRIPTORS: *Explosion effects, *Detonation waves, Velocity, Electromagnetic properties, Measurement.

Sanitation and Safety Engineering

U. S. S. R. LITERATURE ON WATER SUPPLY AND POLLUTION CONTROL, VOL. 4: A SURVEY, by B. S. Levine. 1962 [216]p.
Order from OTS $3.50 61-31601-4

Translations of 40 technical papers, originally published in 1957-62 issues of Gigiena i Sanitariya (31 papers) Vodosnabzhenie i Sanitarnaya Tekhnika (8 papers) Koks i Khimiya (1 paper).

DESCRIPTORS: *Water supplies, *Contamination, *Wastes (Sanitary engineering), Wastes (Industrial), *Sewage, *Decontamination, Consumption, Recreation, Fisheries, Irrigation systems, Urban areas, *Chemical industry, *Radiological contamination, *Nitrites, Cyclohexanes, *Chromium, *Fluorine, *Blood disorders, *Hydrology, *Rivers, *Lakes, Sedimentation, Water filters, *Sodium compounds, Chlorides, Thio radicals, Phosphates, Carbohydrates, Coke, Paper industry, *Sea water, Coal, *Silver, Petroleum, *Ozone, *Bacteria, Mycobacterium tuberculosis, *Strontium, Shales, *Phenols, *Ion exchange resins, Quality control, *Zinc, *Manganese, *Cobalt, *Iodine, *Naphthalenes, Polarographic analysis

Included in the papers is the full text of the USSR Regulations for Protecting the Surface Waters from Pollution with Waste Water, dealing with water sources used for irrigation, drinking, household needs, fish breeding, and water sports. Other papers consider such topics as the pollutional effects and preventive treatment of wastes of particular industries; the sanitary and toxicological effects of the presence of chromium, nitrate, fluorine, iodine, radioactive materials, and other substances in waste water; methemoglobin in children who consume nitrates in water; the installation of septic tank systems; and, the protection of underground water from pollution. (See also 61-31601-3)

Kuzimin, P. I.
INCREASING THE EFFECTIVENESS OF WIND-DIRECTING ACTION OF SNOW SHIELDS (EXPERIENCE OF THE EXTREME NORTH) tr. by M. C. Selby. [1963] [6]p. (figs. omitted).
Order from OTS or SLA $1.10 63-13397

Trans. of Russian language article from unidentified source, n.d.

DESCRIPTORS: *Wind, *Structures, *Snow, Design, Operation, Effectiveness.

Unger, U.
THE USE OF ALUMINIUM SULPHATE AS FLOCCULANT IN EFFLUENT PURIFICATION. [Apr 63] 6p.
Order from SLA $1.10 63-18283

Trans. of Wochenbl[att für] Papierfabr[ikation] (West Germany) 1962, v. 90, no. 23/24, p. 1265-1271.

DESCRIPTORS: *Aluminum compounds, *Sulfates, Chemical precipitation, *Wastes (Industrial), *Purification, Wastes (Sanitary engineering), Economics.

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

MACHINE FOR EXTRACTING THE BONES FROM FISH. 24 June 63, 5p. 6482/61 Japan.
Order from INT $15.00

Trans. of Japanese patent 6482/61 by Nikiji Ono, filed 24 June 59.

DESCRIPTORS: *Fishes, *Bone, Machines.

METHOD FOR CLARIFICATION OF SUGAR JUICES. [1963] 7p. (figs. omitted) 4 refs.
Order from OTS or SLA $1.10 63-16348

Trans. of Dutch patent 91,017, appl. ser. no. 201,856 filed 8 Nov 55, issued 16 Apr 59, pub. 15 May 59, by N. V. Algemeene Norit Maatschappij.

DESCRIPTORS: *Carbohydrates, Purification, Solutions, Colors, Charcoal, Calcium compounds, Phosphates, Chemical precipitation.

The invention involves a method for the purifying of sugar solutions by which these are decolorized with active char and, at the same time clarified through precipitation of calcium phosphate in the solution, leading in some air and separation of the formed calcium phosphate foam, in which the activated char is occluded through taking the foam away, with the special indication, that the so-treated sugar solution is decolorized in the second step with fresh activated char, the solution is filtered and the filtered and partly used activated char is used for the herebefore combined purification with the help of calcium phosphate foam and activated char. The clarification with calcium phosphate in presence of once used activated char is done with heat. (Author)

METHOD FOR THE PREPARATION OF COFFEE CAKE, AND SIMILAR BAKED PRODUCTS, AS WELL AS ON THE RESULTED COFFEE CAKE OBTAINED WITH THIS METHOD OR PROCEDURE. [1962] 5p.
Order from OTS or SLA $1.10 63-14782

Trans. of [Dutch?] patent application no. 44,122, by N. V. Meelfabrieken der Nederlandsche Bakkarij [1938].

DESCRIPTORS: *Bakery products, Processing, Food.

METHOD FOR THE UNIFORM DISPERSMENT OF FAT-SOLUBLE VITAMINS IN AQUEOUS LIQUIDS. [1963] 2p.
Order from OTS or SLA $1.10 63-16015

Trans. of French patent 717,067, by I. G. Farbenindustrie, n.d.

DESCRIPTORS: Processing, *Vitamins, Fats, Solutions, *Colloids, Water, Dehydrated foods.

PROCESS FOR THE FRACTIONAL UPGRADING OF MOLASSES AND "SCHLEMPE". [1963] 6p.
Order from OTS or SLA $1.10 63-16101

Trans. of description of an invention from an unidentified source, n.p., n.d.

DESCRIPTORS: Fractionization, Carbohydrates, *Beets, Purification, Wastes (Industrial), *Glutamic acid.

PROCESS FOR THE MANUFACTURE OF TURKEY RED OIL. [1963] [2]p.
Order from OTS or SLA $1.10 63-16307

Trans. in manuscript of French patent 642,392, n.d.

DESCRIPTORS: Manufacturing methods, *Oils, Fats, Vegetable oils.

PRODUCTION OF INSTANT COFFEE. 21 June 63, 3p. 12182/61 Japan.
Order from INT $17.20

Trans. of Japanese patent 12182/61 by Morinaga Confectionery Co. Ltd., Japan, filed 27 Feb 60.

DESCRIPTORS: *Coffee, *Dehydrated foods.

Acker, L. and Diemair, W.
ABOUT THE DETERMINATION OF THE EGG CONTENT OF EGG-DOUGH PRODUCTS. [1963] 15p. 20 refs.
Order from SLA $1.60 63-16497

Trans. of Zeitschrift für Lebensmittel- Untersuchung und -Forschung (West Germany) 1957, v. 105, no. 6, p. 437-445.

DESCRIPTORS: *Eggs, *Bakery products, Food, Chemical analysis.

The various methods for the determination of egg content in egg dough products were critically checked with egg dough products of known egg contents. The Radorn and Jungkunz method proved most adequate. With the Riffart and Keller process, too low results are sometimes obtained for no obvious reason. The total lipoid content (obtained with the alcohol-benzene-extraction and cleaning with ether) is very suitable as a means of checking, while instant titration methods can only be used as a general elimination method. (Author)

Gründer, W.
IDENTIFICATION OF FLOURS ACCORDING TO BAKING PROPERTIES, A CONTRIBUTION TO THE PROBLEM OF FERMENTATION CURVES AND STREAM FLOURS (Kennzeichnung der Mehle nach "Backfähigkeit" ein Beitrag zur Problematik der Triebkurven von Passagenmehlen). [1963] [11]p. 5 refs.
Order from SLA $1.60 63-14955

Trans. of das Mühlenlaboratorium (Germany) 1935, v. 5, p. 74-78.

DESCRIPTORS: Indentification, *Flour, Food, *Fermentation, *Bakery products.

Gründer, W.
THE SEDIMENTOGRAPH, A FULLY AUTOMATIC APPARATUS FOR THE DETERMINATION OF THE GRANULAR CHARACTERISTICS CURVE OF FLOURS (Der Sedimentograph, ein Vollautomat zur Ermittelung der Körnungskennlinien von Mehlen). [1963] [16]p. 4refs
Order from SLA $1.60 63-14957

Trans. of das Mühlenlaboratorium (Germany) 1937, v. 7, no. 12, p. 171-176.

DESCRIPTORS: *Particles, *Flour, Determination, Separation, Food.

Harde, E.
COMPLETE MILK FOOD. [1963] 2p.
Order from OTS or SLA $1.10 63-16019

Trans. of French patent 733,825, appl. 18 Mar 32, pub. 12 Oct 32.

DESCRIPTORS: Food, *Milk, *Dehydrated foods, Preservation, Vitamins.

Hess, Kurt and Kater, Ingeborg.
COMPOSITION OF SPECIFIC COMPONENTS IN WHEAT FLOUR FOR DOUGH AND BREAD FORMATION. [1963] 3p. 2 refs.
Order from SLA $1.10 63-16296

Trans. of die Mühle (West Germany) 1959, v. 96, no. 9, p. 111.

DESCRIPTORS: Chemical analysis, *Wheat, *Flour, *Bakery products, Bread.

When extracting flour with acetone (- 4°C.) fat remains always with "lipoprotein", which can be extracted therefrom by acetone after dissolving in alcohol and evaporation of the bulk of the solvent. The P_2O_5 content in the alcohol extract corresponds only to 20-25% of the P_2O_5 content in the flour; the insoluble phosphates present in flour are probably attributable to starch. Choline values of the alcohol extract, calculated on flour, are mostly only very little below the values, determined directly on flour. "Lecithin" was estimated from choline content. (Author)

Kaufman, H. P.
MODERN NUTRITIONAL PROBLEMS. I. NUTRITIONAL RESEARCH, CRITICISM OF FOOD-STUFFS, THE REFORM OF THE FOOD LAW, AND OF THE EDUCATION OF FOOD CHEMISTS. [1963] 18p. 15refs.
Order from SLA $1.60 63-16394

Trans. of Fette Seifen Anstrichmittel (West Germany) 1956, v. 58, no. 10, p. 886-890.

DESCRIPTORS: *Nutrition, Preservation, Processing, Food, Standards, Distribution (Economics), Education, Chemists.

Olerod, R.
A KINETIC METHOD FOR ALPHA-AMYLASE ACTIVITY DETERMINATION IN BREAD CEREAL. [1963] 9p. (figs. refs. omitted).
Order from SLA $1.10 63-16490

Trans. of Getreide und Mehl (West Germany) 1959, v. 9, no. 5, p. 49-52.

DESCRIPTORS: Flour, *Bread, *Cereals, Enzymes, *Glycoside hydrolases, *Colorimetry.

Ponomarenko, A. P.
UTILIZATION OF STEAM COMPRESSORS IN THE EVAPORATING SYSTEM. [1963] 8p. (figs. omitted).
Order from OTS or SLA $1.10 63-16364

Trans. of Sakharnaya Prom[yshlennost'] (USSR) 1954, v. 28, no. 3, p. 11-14.

DESCRIPTORS: *Steam, *Compressors, *Evaporators, Refineries, *Carbohydrates.

Use of steam compressors is effective in all cases, when vapor from last effect goes into the condenser. Due to the work of compressors, the consumption of steam used for the concentration of juice and sirups is saved at the same or increased density. Use of steam compressors increases rate of vapor production which improves performance of the evaporators. Use of compressors in the absence of reserved heat transfer capacity of first evaporator body permits the increase of its heating surface. Compressors are promising in factory use and are very simple to assemble. The relatively insignificant expense for the assembling of the compression system is returned in a very short time from the savings on fuel. (Author)

Ruffin, Alfred.
PROCESS FOR PRESERVATION OF VEGETABLE FATS. [1963] [2]p.
Order from OTS or SLA $1.10 63-16001

Trans. of French patent 439,753, appl. 6 Feb 12, pat. 16 Apr 12, pub. 22 June 12.

DESCRIPTORS: Fats, *Vegetable oils, Preservation.

Schneeweiss, R.
CONCERNING THE POSSIBILITY OF SHORTENING THE BAKING TIME OF BREAD AND ITS LIMITATIONS. [1963] [15]p.
Order from SLA $1.60 63-16567

Trans. of Brot und Gebäck (West Germany) 1962, v. 16, p. 64-70.

DESCRIPTORS: *Bread, Processing, Food, Bakery products.

Vandevelde, A. J. J.
FLOUR STERILIZATION AND PANARY FERMENTATION. [1963] 9p.
Order from SLA $1.10 63-16484

Trans. of Soc[iete] Chim[ique] de Belg[ique]. Bull[etin] 1910, v. 24, p. 328-337.

DESCRIPTORS: *Flour, Decontamination, Bread, *Fermentation, Contamination, *Bakery products, Manufacturing methods.

Vostokov, A. T. and Shilenko, V. D.
SPONTANEOUS CRYSTALLIZATION IN THE COOKING OF THE MASSECUITES BY MEANS OF A CRYSTALLINE SUGAR PASTE (METHOD OF PROF. A. A. SHUMILOV). [1963] [10]p.
Order from OTS or SLA $1.10 63-16375

Trans. of Sakharnaya Promyshlennost' (USSR) 1948, v. 22, no. 4, p. 22-25.

DESCRIPTORS: *Carbohydrates, *Crystals, *Crystallization, Boiling, Storage, Cooking devices.

Vukov, K.
EXAMINATION OF THE ROLE OF PECTIN AND DEXTRAN IN THE FILTRATION OF SUGAR FACTORY JUICES. [1963] [19]p.
Order from SLA $1.60 63-16376

Trans. of [Acta Chimica (Hungary) 1957, v. 13, p. 71-81].

DESCRIPTORS: *Pectins, *Dextran, *Carbohydrates, *Liquid filters, Liquids, Viscosity, Adsorption.

The filterability of model solutions with a given precipitate and filter cloth, under constant conditions (cake thickness of constant height, air pressure 1 atm., 100° C.) was examined. It was shown that dissolved pectin substances influence filtration rate only slightly (by increasing the viscosity of the solution); filterability, however, decreases considerably when pectin substances are present in the precipitate. Dextrans reduce filtration rate not only by increasing the viscosity of the solutions but also due to adsorption by the precipitate and filter cloth. This exceedingly strong effect is due to the molecular weight of dextran so that break-down of the molecules by oxidation by hypochlorite remarkably improves filterability. The reaction can be used for the detection of dextran in sugar factory juices and to facilitate filtration. (Author)

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 101. 30 July 63, 14p.
JPRS: 20405.
Order from OTS $0.50 63-31414

Trans. from Komsomol'skaya Pravda (USSR) 1963, 1 June, p. 2; Pravda, Leningrad (USSR) 1963, 20 Feb, p. 4; Pravda, Moscow (USSR) 1963, 24 Feb, p. 2; Rabochaya Gazeta (USSR) 1963, 17 May, p. 2; Sovetskaya Estoniya (Estonian SSR) 1963, 27 Feb, p. 1; Sovetskaya Moldavia (USSR) 1963, 1 June, p. 2; Sovetskaya Rossiya (USSR) 1963, 27 Feb.

DESCRIPTORS: *Industrial production, *Precision equipment, Employee relations, *Railroads, *Remote control systems, *Education, Engineering personnel, Industrial plants, Wire, *Luminescence, Color television, Ammeters, Voltmeters, Industrial relations, Lighting equipment.

Contents:
Attacks on Manomer plant management by disgruntled workman decried, by O. Bazilevich and V. Ivanov
New remote-control system being tested on Moscow-Ryazan railroad
Radio-engineering curricula dominated by old-line engineering subjects, by V. Shlyushenkov
Kishinev Mikroprovod plant being enlarged and modernized
Krasnii Khimik plant now producing luminescent compounds for color tv tubes
Tel'shyai measuring instruments plant enlarges output of electrical products
Worker solidarity at Buryatkabel' plant
L'vov electric light bulb plant celebrates output of 800,000,000th bulb

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 102. 31 July 63, 43p.
JPRS: 20430
Order from OTS $1.25 63-31424

Trans. of Agitator (USSR) 1963, no. 8, p. 25; Ispolnitel'nyi Komitet, Moscow. Byulleten (USSR) 1963, 7 Apr, p. 20-21; and 31 selected articles from 1963 issues of 16 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, Plastics industry, Molding, Television equipment, *Magnetic recording systems, Industrial plants, *Exposure meters, *Voltmeters, *Electronic switches, *Television receivers, Electrical equipment, *Panel boards (Electricity), Magnetic tape, Electric furnaces, *Thermometers, *Dilatometers, Lighting equipment, Fluorescence, *Photofluorographic cameras, *Radio receivers, Sound reproduction systems, *Motion-picture projectors, Measuring devices (Electrical and electronic), Meters, Pnase shifters, Pulse generators, Spectrum analyzers, *Computers, *Machines, *Electroerosive machining, Diffraction, *Spectrographic cameras, Cathode ray tubes, Motion-picture cameras, Microscopes, Electric cables.

Contents:
Efficiency innovations at the Vil'nyus plastic goods plant
A portable video tape-recorder developed in the Scientific Research Instutute of Magnetic Recording and Technology of Radio Broadcasting and Television
Renaming the Moscow gas equipment plant
Organization of photographic exposure meter production at the Elektroschetchik plant
An electrometric millivoltmeter constructed in the experimental design bureau of precision electronic instrument making
Noncontact switches produced at the Lida electrical articles plant
The Leningrad plant imeni Kozitskii produces new television sets
Improvement in the work of the television assembly and installation shop at the plant imeni Kozitskii
Improvement in the work of the Vil'nyus Elektrokonstruktsiya plant
The "Moskva" portable television set, by A. Abullin
Improvement in the quality of television sets, tape recorders and magnitolas
Special conveyer electrothermal furnaces designed at the Lokhvitsa instrument-making plant, by I. Kharchenko
New instruments designed by the institute of precision mechanics and optics
New products at the Kirovabad instrument-making plant
Fluorescent lamps produced by the Mogilev-Podol'skii metal-working plant
New products at the Rentok plant
The "Estoniya-3" radio-phonograph combination manufactured by the "Punane Ret" plant
Increase in the production of the Baku Yuzhmontazhavtomatika Trust plant
A sale offer by the Odessa motion picture equipment plant
Various items of equipment offered for sale
For better computers
Plans for new machines in 1963
A device for plasma metal cutting designed by the Tbilisi affiliate of the All-Union Scientific Research Institute of Electrical Welding Equipment
Instruments for solar investigations manufactured at the Leningrad state optical equipment plant
Activity at the Panyavezhis cathode-ray tube plant
Audio reproducing equipment manufactured by the Leningrad association of optical equipment enterprises
A continuous vulcanization unit installed at the Erevan cable plant
Miscellaneous short items

Beushausen, W.
FINE GRINDING WITH MECHANICALLY ACTUATED IMPACTORS. [1962] [14]p. (figs. omitted). [CWL] Transl. no. 16.
Order from OTS or SLA $1.60 62-25798

Trans. of Chemie-Ingenieur-Technik (West Germany) 1959, v. 31, p. 553-560.

DESCRIPTORS: *Grinding wheels, Machines, Small tools, Grinders, *Particles, Impaction, Fragmentation, *Ball mills, Milling machines.

Following a general delineation of impact grinding from disintegration by other mechanical methods, the areas of application of impact implements are described according to their divergent tasks. The influence of the machine's rate of work on particle size is shown by a number of micro-photographs and representations of grain-size distribution, which at the same time give a good idea of the fineness currently obtainable with practical and feasible means. The effect of the flowing carrier medium on the resulting fineness is explained in terms of the theoretical behavior of small particles, their specific weight and their shape. The material's structure, repeated impact stress and the limits of stress are influential. Impact grinding is particularly suited to selective separation of structurally inhomogeneous substances. (Author)

Sof'in, G. N.
REPARACION Y REVISION DEL CILINDRO DE UNA PRENSA HIDRAULICA (Remont Tsilindra Gidropressa) (Repair and Inspection of a Hydraulic Press Roll). 5p. CID: 62-238.
Order from OTS, ETC or CID $0.80 62-29238

Trans. in Spanish of Stanki i Instrument (USSR) 1956, [v. 27] no. 11, p. 32.

DESCRIPTORS: *Hydraulic presses, Maintenance.

Engines and Propulsion Systems

Bogatev, K. I.
ÜBER DIE BERÜCKSICHTIGUNG DER DYNAMISCHEN STABILITÄT VON GESCHWINDIGKEITS- UND ERREGUNGSREGLERN UNTER BERÜCKSICHTIGUNG DES EINFLUSSES DER DÄMPFERWICKLUNG (Consideration of the Dynamic Stability of Speed Regulators and Energizing Regulators Regarding the Influence of the Amortisseur Winding).
Order from TIB $1.55

Trans. in German of Elektrichestvo (USSR) 1961, no. 7, p. 31-34.
Another trans. is available in English from OTS or SLA $1.60 as 62-25937, CE Trans-2393 [1962] [11]p.

DESCRIPTORS: Dynamics, Stability, *Speed regulators, *Turbines, Transients, Turbine parts, Damping.

Buschmann.
THE "M" PROCESS USED IN DIESEL ENGINES PRODUCED BY M. A. N. NÜRNBERG. 26 July 54 [6]p.
Order from SLA $1.10 63-16443

Trans. of MTZ [Motortechnische Zeitschrift] (West Germany) 1954, v. 15, no. 4, p. 105-106.
Another trans. is available from SLA as 58-897.

DESCRIPTORS: *Diesel engines, Combustion, *Combustion chambers, *Pistons, *Fuel injection, Design, Lubrication.

Hug, K.
MEASUREMENT AND CALCULATION OF PISTON TEMPERATURES IN DIESEL MOTORS. [1963] 53p.
Order from SLA $5.60 63-16788

Trans. of mono. (doctoral thesis) at [Eidgenössische Technische Hochschule] Zurich [Switzerland] n.d.

DESCRIPTORS: *Diesel engines, *Pistons, Temperature, Alloys, Castings, Thermocouples, Steel, Heat transfer, Thermal conductivity, Engine cylinders

Plutser-Sarno, Yu. N.
NEW METHOD OF ELECTRIC STARTING OF HEAVY DIESEL LOCOMOTIVES, [1962] 11p. 2 refs.
Order from RIS $20.00 RIS E-773

Trans. of Vestnik Elektropromyshlennosti (USSR) 1960, v. 31, no. 8, p. 36-41.

DESCRIPTORS: *Locomotives, *Diesel engines, *Engine starters, Storage batteries, Generators, Armatures.

Unksov, E. P., ed.
INVESTIGATIONS IN THE STABILITY OF TURBINE VANE MATERIALS. 17 June 63 [87]p. 59 refs.
FTD-TT-62-1817.
Order from OTS or SLA $8.10 63-23092

Unedited rough draft trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Tekhnologii i Mashinostroeniya, Moscow. Trudy (USSR) 1961 [v. 103] 165p.

DESCRIPTORS: *Gas turbine blades, *Turbine parts, Stability, *Heat-resistant materials, Mechanical properties, Fatigue (Mechanics), Vibration, Stresses, Tensiometers, Failure (Mechanics), Thermal stresses, Test equipment, Tests, Measurement, Guide vanes.

This book presents the results of several projects undertaken at The Central Scientific Research Institute for Technology and Machine Building to investigate durability in gas turbine vanes operating at high temperatures. Successive chapters are devoted to studies of vanes operating under simultaneous normal stress and variable deflection loads, to analysis of methods applied in measuring vibration strain, and to the construction of experimental equipment for these purposes. (Soviet editors note)

Machine Parts and Mechanisms

PERFECTION OF PROCESSES FOR CLEANING DRAWPLATES AND LININGS OF DRAWPLATES. [1961] 4p.
Order from RIS $8.00 RIS C-180

Trans. of French patent application 1 256 712, by Société Rhodiaceta, appl. 4 Apr 60, pub. 13 Feb 61 (priority: Patent appl. filed in Germany, 26 May 59, no. D 30 736, by Deutsche Rhodiaceta A. G.).

DESCRIPTORS: Orifices, *Cleaning, Fibers (Synthetic), Textiles, Machines, Machine tools, *Sound.

Luskin, A. Ya.
LAYING PIPE WITHOUT TRENCHES BY THE VIBRO-BORING METHOD. [1962] [7]p. (figs1 omitted). AERDL T-880; R RIS E 653.
Order from OTS or SLA $1.10 62-13280

Trans. of Novaya Tekhnika Montazhnykh i Spetsial'-nykh Rabot v Stroitel'stve (USSR) 1959, v. 21, no. 12, p. 26-28.
Also available from RIS as RIS E-653.

DESCRIPTORS: Vibration, *Drilling machines, *Pipes, Civil engineering, Soils.

Manufacturing Equipment and Processes

Akishin, A. I. and Zazulin, V. S.
FILM THICKNESS CONTROL BY MEANS OF A CRYSTAL RESONATOR (Kontrol' Tolshchiny Plenok, Poluchaemykh v Vakuume, Kvartsevym Rezonatorom). 19 June 63 [7]p. 4 refs. AID Rept. T-63-86.
Order from OTS or SLA $1.10 63-23150

Trans. of #Pribory i Tekhnika Eksperimenta (USSR) 1963 [v. 8] no. 1, p. 152-154.

DESCRIPTORS: Films, *Metal films, Thickness, Control, *Quartz resonators, *Tolerances (Mechanics), Manufacturing methods, *Sputtering.

The article describes a method of continuous control, by means of a quartz resonator, of the thickness of thin metallic films prepared in a vacuum by evaporation or any other means. The maximum sensitivity of the method is $\sim 10^{-9}$ g/cm^2. Calibration data are given for a 16-Mc quartz crystal. The method may also be applied to the study of cathode and certain surface phenomena. (Author)

Tugushev, A. S., Korneev, N. I. and others.
A DEVICE FOR HEATING AND STAMPING METALS AND ALLOYS UNDER VACUUM OR IN AN INERT ENVIRONMENT. 4 Feb 63 [5]p. FTD-TT-62-1806.
Order from OTS or SLA $1.10 63-19079

Unedited rough draft trans. of Soviet patent 130, 323 (650038/25) 6 Jan 60.

DESCRIPTORS: *Hot-working, *Metals, *Alloys, Vacuum apparatus, Electric furnaces, Controlled atmospheres.

The device consists of prechamber, electric furnace, and stamping die-block with container. For compactness and obtaining the necessary vacuum the prechamber, cavity of the electric furnace, and that of the die-block container are directly connected in the die-block by a system of tubing. This system is also designed for moving the billets along. The die-block has a cover hermetically sealing the container with sleeves and a hermetically sealed tube for receiving the stamped articles.

Transport, Traction and Hoist Facilities

DIESEL-HYDRAULIC 1220/1100 HP KRUPP LOCOMOTIVE WITH SINGLE AXLE DRIVE. [1963] [6]p.
Order from SLA $1.10 63-16440

Trans. of MTZ [Motortechnische Zeitschrift] (West Germany) 1953, v. 14, no. 8, p. 254-256.
Another trans. is available from SLA as 58-875.

DESCRIPTORS: *Locomotives, Drives, *Automatic transmissions, Diesel engines, Design, Hydraulic systems.

Bystritskii, Kh. Ya. and Kurochka, A. L.
THE IMMEDIATE PROSPECTS OF SOVIET ELECTRIC LOCOMOTIVE BUILDING. [1963] 6p. [DSIR] NLL M. 3967.
Order from OTS or SLA $1.10 63-19862

Trans. of Zheleznodorozhnyi Transport (USSR) 1962, v. 44, no. 5, p. 27-32.

DESCRIPTORS: *Locomotives, *Railroads, *Electric motors, Direct current, Alternating current.

Erokhin, S.
CONTAINER SHIPPING IN THE NORTH (Konteinernye Perevozki na Severe) tr. by W. L. H. 26 Apr 63, 3p. I-2196.
Order from OTS or SLA $1.10 63-19416

Trans. of Sovetskaya Torgovlya (USSR) 1962 [v. 35] no. 12, p. 45-46.

DESCRIPTORS: *Containers, *Transportation, Railroads, Water traffic, Cargo, Handling.

Zhermunskii, B.
CALCULO DEL EJE DE TRANSMISION DEL MECANISMO REDUCTOR DE LA GRUA DE PORTICO CHERETTI-TANFANI (Raschet Vykhodnogo Vala Reduktora Privoda Povorota Portal'hogo Krana "Cheretti-Tanfani") (Determination of the Cheretti-Tanfani Traveling Jib Crane Reducing Mechanism Driving Shaft). 7p. CID: 62-211.
Order from OTS, ETC or CID $0.80 62-29211

Trans. in Spanish of Morskoi Flot (USSR), 1960, [v. 20] no. 5, p. 12-13.

DESCRIPTORS: *Hoists, *Crankshafts.

Zarankin, M. E. and Sil'verstrov, V. V.
AUTOMATION OF BUNKERLESS LOADING OF COAL INTO RAILWAY WAGONS. [1963] 10p. NCB Trans. A. 2074/JG; [DSIR] NLL M. 3919.
Order from OTS or SLA $1.10 63-19930

Trans. of Ugol' (USSR) 1961 [v. 36] no. 4. p. 23-28.

DESCRIPTORS: Automatic, *Conveyors, *Coal, Railroad cars, Handling, Control, Phototubes, Models (Simulations), Feasibility studies.

MANUFACTURING METHOD FOR SYNTHETIC PEARL ESSENCE. 13 June 63, 5p. 2738/53 Japan.
Order from INT $13.50

Trans. of Japanese patent 2738/53 by Yoshio Fujioka & tow others of Ookubo Branche Office of Tokyo Bunrika University, filed 11 Sep 53.

DESCRIPTORS: *Fishes, *Organic pigments.

SOAP-LIKE PRODUCT FOR WASHING THE SKIN. [1963] 2p.
Order from OTS or SLA $1.10 63-18386

Trans. of French patent 896,092, to [I.G. Farbenindustrie A.G.] 17 Apr 44.

DESCRIPTORS: *Skin, *Cleaning compounds, *Sulfonates, Salts, *Carboxylic acids.

SYNTHETIC PEARL ESSENCE MANUFACTURING METHOD. 26 June 63, 7p. 17492/60 Japan.
Order from INT $21.00

Trans. of Japanese patent 17492/60 by Ohyo Kohgaku Kenkyusho Inc., filed 28 Feb 59.

DESCRIPTORS: Fishes, *Organic pigments.

Ashimov, M. A., Mamedova, M. A. and others.
THE PRODUCTION OF AZOLYAT-A BY THE SULPHONATION OF ALKYLBENZENES WITH SULPHUR TRIOXIDE (Poluchenie Azolyata-A Sul'firovaniem Alkilbenzolov Sernym Angidridom). Sep 62 [12]p. 10 refs. RTS-2131.
Order from OTS or SLA $1.60 63-15247

Trans. of Azerb[aidzhanskii] Khim[icheskii] Zhur[nal] (USSR) 1961, no. 4, p. 23-29.

DESCRIPTORS: *Alkyl radicals, *Sulfonates, *Sulfonation, *Benzenes, *Oxides, *Sulfur compounds, *Surface-active substances, Sulfuric acid, Additives, *Cleaning compounds, Tar, Colloids.

Azolyat-A is a cream-colored, surface-active material. By-products of its synthesis were acid tars, whose calcium salts can be used as de-emulsifiers. Sulfonation with oleum produced 2 to 2.5 times as much Na_2SO_4 and unsulfonated hydrocarbons in Azolyat-A as sulfonation with SO_3. The surface tensions of solutions of Azolyat-A, sulphonated with either oleum or SO_3, were about equal. Purification of Azolyat-A resulted in a higher surface tension. The use of SO_3 gave the solution a greater foam-forming ability. The foam produced by solutions of unpurified Azolyat-A were more stable. Additions of carboxymethylcellulose and soda increased the detergent effect. At a concentration of 0.5% of active material, the detergent effect of unpurified Azolyat-A was 360%, of Azolyat-A purified with benzene, 448% and of Azolyat-A produced by sulfonation with SO_3, 300%.

Berman, Elliott.
PRINTING PROCESS. [1962] 7p.
Order from OTS or SLA $1.10 62-14683

Trans. of French patent 1,272,059, P. V. no. 832,847, Internat. cl. B 41 m - G 03 c, by National Cash Register Co., U. S., appl. 13 July 60, granted 16 Aug 61 (appl. filed in U. S. 16 July 59 under no. 827,445).

DESCRIPTORS: *Printing, Fluids, Materials, Lithography.

This patent pertains to a printing process by means of a sheet of image transfer recording material, said sheet being provided with a large number of small droplets normally fluid of a printing material, which droplets can be transferred to a copy receptor sheet by pressure, with the exception of the zones where the droplets are rendered non fluid by the fact that they are selectively submitted to a light, for example through a luminous image control organ comprising stencils, diapositives and projection devices. (Author)

Chuiko, V. K.
EMPLEO DE LATEX SINTETICOS EN LA ELABORACION DE HULE DE PAPEL (Primenenie Sinteticheskikh Lateksov pri Izgotovlenii Bumazhnoi Kleenki) (Utilisation of Synthetic Latexes in Paper Oilcloth). 4p. CID: 62-242.
Order from OTS, ETC or CID $0.80 62-29242

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1961, v. 36, no. 5, p. 16.

DESCRIPTORS: *Paper, Production, *Synthetic rubber.

Liner, Richard.
THE TECHNOLOGY OF PNEUMATICALLY PLACED CONCRETE. [1963] [23]p. (figs. omitted).
Available from SLA on loan 63-18788

Trans. from Beton u[nd] Stahlbetonbau (West Germany) 1963 [v. 58] no. 2.

DESCRIPTORS: *Concrete, Construction materials, *Pneumatic systems, Machines, Pipelines, Transportation, Mortar, Cements, Civil engineering, Buildings.

MATERIALS

Patou, Jean.
SOAP. [1963] 2p.
Order from OTS or SLA $1.10 63-16018

Trans. of French patent 723,704, pub. 14 Apr 32.

DESCRIPTORS: *Soaps, *Ethylenes, *Glycols, Additives.

The invention involves a soap distinguished by addition of a "composition of ethylene and glycol" such compound being incorporated in the soap cake and added as a softening and solutizing agent to impart new wetting and softening properties to the final product. The said composition is diethylene glycol. (Author)

Schutz, H.
STABLE DETERGENT PASTE. [1963] 4p.
Order from ATS $5.50 ATS-01Q71G

Trans. of Swiss Patent 364,860, cl. 23e,2, appl. 50735/57, filed 19 Sep 57, granted 15 Oct 62, pub. 30 Nov 62 (priority: 21 Sep 56, Germany, M 31798 IVa/23e).

DESCRIPTORS: *Cleaning compounds, *Detergents Stabilization.

Snegirev, M. M.
REGULACION AUTOMATICA DE LA TEMPERATURA EN EL PROCESO DE DESFIBRADO (Avtomaticheskoe Regulirovanie Temperatury Defibrirovaniya) (Automatic Temperature Control in the Fiber Removing Process). 7p. CID: 62-244.
Order from OTS, ETC or CID $0.80 62-29244

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1961, v. 36, no. 5, p. 25-26.

DESCRIPTORS: *Automation, *Fibers, Temperature control.

Zadoyan, M. A.
CREEP IN A CONCRETE BLOCK AT ELEVATED TEMPERATURES. [1963] 8p. 8 refs. [DSIR] NLL M.3855.
Order from OTS or SLA $1.10 63-19896

Trans. of Akad[emiya] Nauk SSSR. Otdel[enie] Tekhn[icheskikh] Nauk. Izv[estiya]: Mekhanika i Mashinostroenie, 1961, no. 4, p. 130-135.

DESCRIPTORS: *Concrete, *Creep, High temperature research, *Thermal stresses, Elasticity.

The problem of creep in a rectangular concrete block occurring at high temperatures is examined. The effect of high temperatures on the modulus of elasticity and on the rate of creep in the concrete is considered. The surfaces of the block are assumed to be ideally heat insulated. In an appendix a calculation is given of creep in the block under the influence of thermal stress caused by gamma radiation. (Author)

Adhesives and Sealants

Manelis, R. M.
A MOLYBDENUM-BASE PASTE. 25 Feb 63 [4]p. FTD-TT-62-1883; AD-299 668.
Order from OTS or SLA $1.10 63-19397

Unedited rough draft trans. of Soviet patent 148746(670753/29) cl. 80b, 13_{03}, 80b, 23_{10}, sub. gr. 266, appl. 21 June 60.

DESCRIPTORS: *Adhesives, *Cermets, Molybdenum, Stainless steel, Bonded joints, Steel, Carbon, Aluminum compounds, Oxides, Bonding

Rabkin, V. B.
A METHOD FOR JOINING METAL TO CERAMIC. 18 Feb 63 [5]p. FTD-TT-62-1794; AD-299 656.
Order from OTS or SLA $1.10 63-19401

Unedited rough draft trans. of Soviet patent 147902(703573/25) 5 Sep 59, 1p.

DESCRIPTORS: *Thermal expansion, *Bonding, *Ceramic materials, *Cermets, Copper, Molybdenum, Tungsten, Alloys, Mathematical analysis, Metal powders

A method for joining metal to ceramic is described. In order to match coefficients of the expansions of the two substances, metallic pseudo-alloys with a prescribed coefficient of linear expansion, the value of which is determined from the formula $\alpha_n = \alpha_1 X + (1 - X)\alpha_2$, are used as the material for the metal objects, and are chosen depending on the coefficient of expansion of the ceramic in the given temperature range. In the above formula α_n is the coefficient of expansion of the pseudo-alloy; α_1 and α_2 the coefficients of expansion of the metal components; and X, the volumetric concentration of the metal with α_1. (Author)

Ceramics and Refractories

PROBLEMS IN DEVELOPMENT OF GLASS AND PORCELAIN INDUSTRY: SELECTED ARTICLES. 28 May 63 [19]p. 5 refs. FTD-TT-63-269.
Order from OTS or SLA $1.60 63-23201

Unedited rough draft trans. of mono. Voprosy Razvitiya Stekol'noi i Farforo-Fayansovoi Promyshlennosti, AN Ukr SSR, 1962, p. 47-54, 188-190.

DESCRIPTORS: *Glass, *Ceramic materials, Silicates, Aluminum compounds, Magnesium compounds, Calcium compounds, Oxides, Sodium compounds, Fluorine compounds, Catalysts, Fluxes (Fusion), Feldspar, Mechanical properties, Dielectric properties, Crystal structure, *Crystallization, *Electric insulation.

Contents:
Microcrystalline materials on a glass base, their properties, and field of application, by K. T. Bondarev
High-strength ceramic materials for high voltage insulators, by S. M. Rozintsveyg and S. A. Kudrina.

Angenot, P.
CONTRIBUTION TO THE STUDY OF THE REACTIONS BETWEEN TANK REFRACTORIES AND GLASS (Contribution à l'Étude des Réactions entre Réfractaires et Verre). [24 Feb 58] [18]p. (foreign text included) 16 refs.
Available from SLA on loan 63-18612

Trans. of mono. Congrès International du Verre (International Congress on Glass) (no. 4) Paris, 1956, Pt. II, paper no. 1, p. 73-78.

DESCRIPTORS: *Glass, *Refractory materials, Chemical reactions, Fused materials, Corrosion, Mullite, Bubbles, Test methods, Tank liners.

A method of testing tank refractories is described which makes it possible to determine their behaviour when in contact with hot glass. Experimental results are given. (Author)

Belyaev, A. I., and Zhemchuzhina, E. A.
ÉTUDE DU LESSIVAGE DES BAUXITES D'OURAL DU NORD, SOUS PRESSION DE 100 ATM. (The Leaching of North-Ural Bauxites with Strong Sodium Hydroxide Solutions at Atmospheric Pressure). 17p. 3 refs. FR-2360.
Order from OTS, ETC or CNRS $0.80 62-26960

Trans. in French of Nauchnye Doklady Vysshei Shkoly. Metallurgiya (USSR) 1958, no. 4, p. 94-100.

DESCRIPTORS: *Bauxite, *Aluminum, *Oxides, Solvent extraction, High pressure research, Hydroxides, Production, Sodium compounds.

Bonetti, G.
RELATION BETWEEN WETTABILITY AND CORROSION OF MOLTEN GLASS WITH REGARD TO SOME FUSION CAST REFRACTORIES. [1963]. [BGIRA] no. 564.
Order from BGIRA BGIRA-564

Trans. of Vetro e Silicati (Italy) 1962, v. 6, no. 34, p. 5-9.

DESCRIPTORS: *Refractory materials, Castings, *Fused materials, *Glass, Melting, Corrosion, Moisture.

CERTAIN SCIENTIFIC PROBLEMS IN THE FIELD OF THE CHEMISTRY AND TECHNOLOGY OF REFRACTORIES. 17 May 63 [8]p. FTD-TT-63-323.
Order from OTS or SLA $1.10 63-23211

Unedited rough draft trans. of Ogneupory (USSR) 1962 [v. 27] no. 7, p. 297-299.

DESCRIPTORS: *Refractory materials, Chemistry, Industrial research.

Dietzel, A.
PRACTICAL IMPORTANCE AND CALCULATION OF THE SURFACE TENSION OF GLASSES, GLAZES, AND ENAMELS. [1963] 18p. 19 refs.
Order from SLA $1.60 63-18427

Trans. of Sprechsaal (Germany) 1942 [v. 75] no. 9/10, p. 82-85.

DESCRIPTORS: *Surface tension, *Glass, *Ceramic coatings,

Dietzel, A. and Coenen, M.
TRIVALENT COBALT IN GLASSES WITH HIGH ALKALI CONTENT. [1963]. BGIRA/Tr/63/11; no. 544.
Order from BGIRA BGIRA-544

Trans. of Glastechnische Berichte (West Germany) 1961, v. 34, no. 2, p. 49-55.

DESCRIPTORS: *Cobalt, *Valence, *Glass, *Alkali metal compounds, Alkali metals.

Ebeling, M.
MEASUREMENT AND CONTROL OF GLASS FEEDERS. [1963]. BGIRA/Tr/63/12; no. 545.
Order from BGIRA BGIRA-545

Trans. of Angewandte Mess- und Regeltechnik (West Germany) 1962, v. 2, no. 8, p. 63-66.

DESCRIPTORS: *Glass, Control, Measurement.

Fischer, J. and Heckel, E.
A SURVEY OF HOT-WATER CORROSION IN SILICA GLASSES. [1963]. BGIRA/Tr/63/13; no. 546.
Order from BGIRA BGIRA-546

Trans. of Glastechnische Berichte (West Germany) 1962, v. 35, no. 8, p. 347-354.

DESCRIPTORS: *Glass, Dioxides, *Silicon compounds, *Corrosion, Water, Thermal conductivity.

Gribovskii, P. O.
THE HOT MOLDING OF CERAMIC PRODUCTS: INTRODUCTION, CHAPS. 2, 5, CONTENTS. 10 May 63 [35]p. 1 ref. FTD-TT-63-146.
Order from OTS or SLA $3.60 63-23186

Unedited rough draft trans. of mono. Goryachee Lit'e Keramicheskikh Izdelii, Moscow, 1961, p. 4-10, 45-48, 362-373, 391-394.

DESCRIPTORS: *Molding, *Ceramic materials, *Casting, Heat treatment, Hot working, *Metals, *Cermets.

Contents:
Introduction
Casting systems (drossing)
Practical value and areas of application of the hot molding technology
Table of contents.

Groote, P. de.
HEAT LOSS THROUGH WALLS OF TANK FURNACES USED IN GLASS-MAKING. [1963] 10p. (figs. omitted).
Order from SLA $1.10 63-14503

Trans. of Chaleur et Industrie (France) 1937, v. 18, p. 91-94.

DESCRIPTORS: Furnaces, *Glass, *Heat transfer, Walls.

Kuffner, M.
THE MECHANICAL PROPERTIES OF WIRED GLASS. [1963]. [BGIRA] no. 567.
Order from BGIRA BGIRA-567

Trans. of Silikat Technik (East Germany) 1962, v. 13, no. 11, p. 382-389.

DESCRIPTORS: *Glass, Mechanical properties, Wire.

Meitins, V. A.
ENRIQUECIMIENTO DE CAOLINES Y ARCILLAS POR MEDIO DEL HIDROCICLON (Obogashchenie Kaolinov i Glin pri Pomoshchi Gidrotsiklona) (Kaolin and Clay Enrichment with Hydrocyclones). 6p. 1 ref. CID: 62-290.
Order from OTS, ETC or CID $0.80 62-29290

Trans. in Spanish of #Steklo i Keramika (USSR) 1956, [v. 13] no. 2, p. 6-7.

DESCRIPTORS: *Clays, *Cyclones (Mechanical).

Mulfinger, H. O. and Scholze, H.
SOLUBILITY AND DIFFUSION OF HELIUM IN GLASS MELTS. II. DIFFUSION. [1963]. BGIRA/Tr/63/14; no. 547.
Order from BGIRA BGIRA-547

Trans. of Glastechnische Berichte (West Germany) 1962, v. 35, no. 12, p. 495-500.

DESCRIPTORS: *Glass, Melting, *Helium, Diffusion, Solubility.

Nosova, Z. A. and Yakovleva, M. E.
ESTUDIO MICROSCOPICO DEL CARACTER MATE DE LOS ESMALTES DE BORO-PLOMO (Mikroskopicheskoe Issledovanie Matovosti Borno-svintsovykh Glazurei) (Microscopic Study of the Dull Character of Boron-Lead Enamels). 9p. 3 refs. CID: 62-253.
Order from OTS, ETC or CID $0.80 62-29253

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1955, v. 100, no. 3, p. 529-531.

DESCRIPTORS: Microscopy, *Ceramic coatings, *Boron, *Lead.

Suzuki, H., Kimura, S. and others.
STUDIES OF THE SYSTEMS Al_2O_3-ZrO-ZrO_2 and Na_2O-ZrO_2 BASIC STUDIES OF Na_2O-Al_2O_3-ZrO_2 TYPE REFRACTORIES, PT. 1. [1963] 12p.
Order from ATS $15.65 ATS-93Q70J

Trans. of Yogyo Kyokaishi (Japan) 1961, v. 69, no. 2, p. 52(72)-59(79).

DESCRIPTORS: *Refractory materials, *Aluminum compounds, *Zirconium compounds, *Sodium compounds, Oxides, Phase studies.

Wondratschek, H.
THE BEHAVIOUR OF HOLES IN GLASS PLATES DURING HEATING. [1963] [BGIRA] no. 566.
Order from BGIRA BGIRA-566

Trans. of Glastechnische Berichte (West Germany) 1962, v. 35, no. 8, p. 355-361.

DESCRIPTORS: Heating, Sheets, *Glass, Chemical reactions.

Zalkind, E. M. and Livshits, E. M.
ENLADRILLADO DE UN TIPO ALIGERADO DE CALDERA (Obmurovka Oblegchennogo Tipa) (Brick Lining of a Light Boiler Type). 9p. CID: 62-212.
Order from OTS, ETC or CID $0.80 62-29212

Trans. in Spanish of Elektricheskie Stantsii (USSR) 1956 [v. 27] no. 2, p. 19-21.

DESCRIPTORS: *Boilers, Brick, *Combustion chamber liners.

Zambo, Ya., and Belyaeva, A. I.
ÉTUDE DU LESSIVAGE DES BAUXITES HONGROISES ET DE LA FABRICATION DE L'ALUMINE SELON LE PROCÉDÉ BAYER (Leaching of Hungarian Bauxites and Settling of Mud in Alumina Production by the Bayer Method). 22p. 4 refs. FR-2359.
Order from OTS, ETC or CNRS $0.86 62-26959

Trans. in French of Moskovskii Institut Tsvetnykh Metallov i Zolota. Sbornik Nauchnykh Trudov (USSR) 1958, v. 31, p. 64-79.

DESCRIPTORS: *Bauxite, *Aluminum, Production, Silicon, *Oxides, Solvent extraction, Hydroxides.

Fuels, Lubricants, and Hydraulic Fluids

IMPROVED GASOLINE FUEL COMPOSITIONS. 24 June 63, 19p. 4226/61 Japan.
Order from INT $57.00

Trans. of Japanese patent 4226/61 by Ethyl Corporation, U. S. A., filed 26 Nov 58.

DESCRIPTORS: *Gasoline, Fuels.

IMPROVEMENTS IN A PROCESS FOR OBTAINING TETRAETHLATE OF LEAD OR LEAD TETRAETHYL. [1963] 2p.
Order from OTS or SLA $1.10 63-16796

Trans. of Spanish patent 128,592, filed 7 Nov 32, by Posmol, S. A.

DESCRIPTORS: *Lead compounds, *Ethyl radicals, Synthesis (Chemistry), Lead alloys, Chlorides, Alkalic metal alloys, Catalysts.

A PROCESS FOR OBTAINING A PRODUCT WHICH WHEN MIXED WITH LIQUID FUELS IMPROVES THEIR QUALITY, INCREASING THEIR CARBURETION AND EFFICIENCY. [1963] 3p.
Order from OTS or SLA $1.10 63-18050

Trans. of Spanish patent 120,892, filed 25 Nov 30, by Ponsa & Moline.

DESCRIPTORS: *Fuel additives, Fuels, *Ketones, *Hydrocarbons, Effectiveness.

A PROCESS FOR OBTAINING TETRAETHYLATE OF LEAD OR LEAD TETRAETHYL AND OTHER ALKYL COMPOUNDS OF THE SAME METAL. [1963] 3p.
Order from OTS or SLA $1.10 63-16797

Trans. of Spanish patent 128,594, filed 7 Nov 32, by Posmol, S.A.

DESCRIPTORS: *Lead compounds, *Ethyl radicals, *Alkyl radicals, Synthesis (Chemistry), Chlorides, Bromides, Iodides, Magnesium, Catalysts.

A PROCESS FOR PREVENTING KNOCKING IN INTERNAL COMBUSTION ENGINES. [1963] 2p.
Order from OTS or SLA $1.10 63-16798

Trans. of Spanish patent 121 650, filed 29 Jan 31, by Ponsa & Moline.

DESCRIPTORS: *Fuel additives, Antiknock, *Lead compounds, *Ethyl radicals, *Internal combustion engines, Fuels.

A PROCESS FOR THE PREVENTION OF KNOCKING IN INTERNAL COMBUSTION ENGINES. [1963] 2p.
Available from SLA on loan 63-18049

Trans. of Spanish patent 128,593, filed 7 Nov 32, by Posmol, S.A.

DESCRIPTORS: *Antiknock, *Knocking, *Iron compounds, *Carbonyl radicals, *Internal combustion engines, Gasoline, Autoignition.

A PROCESS FOR THE PURPOSE OF INCREASING THE STABILITY OF TETRAETHYLATE OF LEAD OR LEAD TETRAETHYL. [1963] 3p.
Order from OTS or SLA $1.10 63-16795

Trans. of Spanish patent 124,703, filed 4 Nov 32, by Posmol S.A.

DESCRIPTORS: *Lead compounds, *Ethyl radicals, *Castor oil, *Fuel additives, Internal combustion engines.

UNDERGROUND PROCESSING OF FUELS (Podzemnaya Pererabotka Topliv). 1963, 162p. PL-480 Int.
Order from OTS $1.75 63-11063

Trans. of Akademiya Nauk SSSR. Institut Goryuchikh Iskopaemykh. Trudy, 1960, v. 13 [166p.].

DESCRIPTORS: *Fuels, *Coal, *Mining engineering, Oxides, Carbon compounds, *Thermochemistry, Carbon, Radioactive isotopes, Chemical reactions, Oxygen, Exchange reactions, Steam, Coke, Gases, Hydrogen, Thermal conductivity, Solids, Electroosmosis, Combustion, Shale, Rock (Geology), *Pyrolysis, Gas flow, Gas generating systems, Electric currents, Germanium, *Chemical engineering.

Contents:

Method for the study of the reactions between carbon oxides and coal with radioactive isotope of carbon, C^{14}, by I. G. Petrenko

Study of the exchange reaction between carbon monoxide and dioxide under homogeneous conditions, by I. G. Petrenko and I. B. Krichko

Stoichiometric analysis of the three simultaneous constituents of the reaction of oxygen with carbon, by B. M. Derman

Laws governing the reaction between carbon and steam, by B. M. Derman

The influence of the concentration of steam on the rate of reaction between steam and carbon, by B. M. Derman and others

A study of the channel gasification of semicoke from Moscow coal with steam-oxygen blast, by B. M. Derman and others

The influence of preliminary thermal treatment on the composition of the gas in the gasification of coal from the Moscow area in a filtration channel, by B. M. Derman and V. A. Nikolaeva

The determination of the effective coefficient of thermal conductivity of solid fuels by the method of linear heat source, by E. K. Rodionova and others

Some results of the investigation of electroosmosis in brown coal from the Moscow area, by R. N. Pitin and G. S. Golovina

The effect of oxygen concentration in the blast on the velocity of movement of zones in the cross-cutting stage in underground gasification, by R. N. Pitin and K. I. Cheredkova

Rate of zone movement and the humidity of fuel in the cross-cutting stage in underground gasification, by R. N. Pitin and K. I. Cheredkova

The problem of the underground gasification of coals at high pressure, by V. S. Al'tshuler and others

Production of technological gas in underground gasification of lisichansk coals, by S. P. Golger and others

The problem of combustion and gasification of shale in a channel, by V. K. Krukovskii and others

Gas formation in gasification of shale in a channel, by V. K. Krukovskii and others

The influence of certain technological parameters of the process of underground gasification of coals on the magnitude of gas losses, by R. N. Pitin

Certain problems involved in the reduction of losses of blast and gas in underground gasification of brown coal from Moscow area, by R. N. Pitin

Rational hydrodynamic conditions for the process of cross-cutting by the fire percolation method, by E. V. Kreinin and I. L. Farberov

Distribution of blast in the cross-cutting process in underground gasification of fuels, by R. N. Pitin and Yu. A. Ponnik

The study of flow in an underground gas generator with the aid of radioactive isotopes, by E. G. Petrenko and E. M. Belyanova

Certain control problems in underground gasification of coal, by I. P. Kirichenko

Products obtained by direct heating of coal with electric current, by E. V. Miroedova and I. L. Farberov

The problem of the volatility of germanium contained in coal, by B. I. Losev and others

D'yachenko, P. E., Kestner, O. E. and others.
LUBRIFICANTE SOLIDO PARA PIEZAS QUE TRABAJAN EN CONDICIONES DE FROTAMIENTO SECO (Tverdaya Smazka dlya Detalei, Rabotayushchikh v Usloviyakh Sukhogo Treniya) (Solid Lubricant for Components Operated under Dry Friction Conditions). 11p. 1 ref. CID: 62-292.
Order from OTS, ETC or CID $0.80 62-29292

Trans. in Spanish of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1955, no. 12, p. 128-130.

DESCRIPTORS:*Lubricants, Friction.

Frössel, W.
HIGH-SPEED LUBRICATING OIL PUMP. [1963] [30]p. 1 ref.
Order from OTS or SLA $2.60 AEC-tr-4970

Trans. of Konstruktion (West Germany) 1960, v. 12, no. 5, p. 195-203.

DESCRIPTORS: *Lubricant pumps, Screw threads, Rotary pumps, Oils, Bearings, Machines, Design.

Screw pumps are suitable as oil pumps for revolutions in excess of 5000 r.p.m. It is shown which of the thread forms are favorable. Furthermore, characteristic curves are given. (Author)

Khotuntsev, L. L., Popov, V. L., and Volkov, G. M.
NEW TYPES OF BINDING AGENTS FOR BRIQUETTING COAL FINES. [1963] 10p. 14 refs. NCB Trans. A. 2010/SEH; [DSIR] NLL M. 3902.
Order from OTS or SLA $1.10 63-19939

Trans. of Ugol' (USSR) 1950, v. 35, no. 4, p. 51-55.

DESCRIPTORS: *Coal, *Briquettes, *Binders, Shale, Bitumens, Humic acids, Tests.

Consideration is given to shale bitumens and to humic acids and their salts.

Kvitkovskii, L. N. and Grushetskaya, E. V.
THE DETERMINATION OF NORMAL PARAFFINIC HYDROCARBONS IN GASOLINES WITH THE AID OF MOLECULAR SIEVES. [1963] 5p.
Order from ATS $8.00 ATS-62Q70R

Trans. of Khim[iya] i Tekhnol[ogiya] Topliv i Masel (USSR) 1962, v. 7, no. 3, p. 61-64. Another trans. is available from OTS or SLA $1.10 as 63-18415 [1963] [7]p.

DESCRIPTORS: *Gasoline, *Alkanes, Determination, *Absorbents

Panchenkov, G. M. and Vlasov, I. P.
POLYMERIZATION OF OILS IN ELECTRODELESS HIGH FREQUENCY DISCHARGE: POLYMERIZATION OF THE OIL FRACTION FROM CRACKING RESIDUES AND OF AVIATION OIL, tr. by I Gawronska. 4 June 62, 6p. 3 refs. Courtaulds Ltd. Misc. Lit. 3495; [DSIR] NLL M.3873.
Order from OTS or SLA $1.10 63-19962

Trans. of [Institut Neftekhimicheskoi i Gazovoi Promyshlennosti. Trudy] (USSR) 1946, v. 4, p. 123-127.

DESCRIPTORS: *Polymerization, *Oils, *Aviation fuels, *Gas discharges, Electromagtic fields, High frequency, Distillation, Viscosity, Surface tension, Density.

The effect of high frequency electrodeless discharge in vacuum on aviation oil and on the oil fraction of cracking residue was investigated with a frequency of the electromagnetic field of $3.3 \cdot 10^7$ kilocycles in dependence on time. It was found that the increase in viscosity and molecular weight of the oils increases with the time of the discharge treatment. The surface tension of the oils on the boundary air/oil remains unchanged after the discharge treatment, but on the boundary oil/water increases with the time of treatment. The percentage content of aromatic hydrocarbons remains constant in the case of aviation oil and increases with time of treatment in the case of the oil of cracking residue. The temperature of oil solidification is lower than that of untreated oil. The decrease in this temperature is proportional to the time of the discharge treatment. (Author)

Rögener, Heinz.
INVESTIGATIONS ON DETONATIVE COMBUSTION. [1963] [38]p. 37 refs.
Order from OTS or SLA $3.60 63-16048

Trans. of German mono. [Untersuchungen über Klopfende Verbrennungen] Brunswick, n.d., 35p. (PB-67864).

DESCRIPTORS: *Combustion, *Detonations, *Autoignition, Ignition lag, Pressure, Graphic analysis, Fuels.

The exact course of the pressure during the compression and autoignition processes is determined and the ignition delay in a region of temperature and pressure is measured corresponding to the conditions prevailing in the unburned residue in an engine.

Tsesarkii, I. B.
OPERATION OF OIL RINGS. [1963] [13]p. 3 refs. [DSIR] NLL M. 3854.
Order from OTS or SLA $1.60 63-19897

Trans. of Vestnik Elektropromyshlennosti (USSR) 1961 [v. 32] no. 11, p. 33-37.

DESCRIPTORS: *Bearings, *Lubrication, Oils, Lubricants, Rings, Power equipment parts.

Leather and Textiles

TEXTILE DRAWING APPARATUS. [1963] 6p.
Order from OTS or SLA $1.10 63-18319

Trans. of Belgian patent 616,613, filed 18 Apr 62, by Imperial Chemical Industries Limited (corresponding British patent appl. 18 Apr 61 in the name of R. Booth).

DESCRIPTORS: *Textile industry, Textiles, *Drawing (Machine processing), *Fibers (Synthetic), Polymers, Industrial equipment.

The invention concerns an improved apparatus for cold drawing of synthetic linear polymer filaments, especially in the form of tangled, practically undrawn thread or cable, said apparatus comprising a pair of truncated cone rollers, each having a helicoidal groove cut in its surface, the two rollers being arranged with their small end at the same side of the apparatus, said apparatus being characterized in that drawing is carried out by advancing the thread or cable in the helicoidal grooves of the two truncated cone rollers from the small to the large end of said rollers. The thread or cable is brought to the truncated cone rollers by means of a pair of smooth or channelled gripping rollers which may have longitudinal grooves, said thread or cable being led away from the truncated cone rollers by means of a pair of similar gripping rollers. (Author)

Perepelkin, K. E. and Konstantinova, G. V.
SOME PROPERTIES OF CONCENTRATED SOLUTIONS OF POLYVINYL ALCOHOL, tr. by I. Gawronska. 18 Apr 62, 8p. 17 refs. Courtaulds Ltd. Misc. Lit. 3473; [DSIR] NLL M.3779.
Order from OTS or SLA $1.10 63-19779

Trans. of Khim[icheskie] Volok[na] (USSR) 1961, no. 6, p. 19-22.

DESCRIPTORS: *Fibers (Synthetic), *Polyvinyl alcohol, Solutions, Gels, Physical properties, Viscosity, Density, Air, Additives, Sodium compounds, Hydroxides, Zinc compounds, Sulfates, Boric acids, Ammonium compounds, Thiocyanates.

The dependence between the viscosity of concentrated PVA solutions and concentration, temperature and the presence of various added substances, was investigated. At 20° the viscosity increases with time and the solution gels, but this process is reversible as, by heating, the structure can be broken down and the value of the viscosity returns to the initial value. The density of PVA solutions was determined for various temperatures and concentrations. The properties of the system PVA - air were examined and the optimum conditions for the deaeration of spinning solutions are suggested. (Author)

Vol'pert, G. R.
ON REGULATING THE PROCESS OF LIMING (O Regulirovanii Protsessa Zoleniya). July 63 [10]p. 3 refs. RTS-2300.
Order from OTS or SLA $1.10 63-23239

Trans. of Kozhevenno-Obuvnaya Promyshlennost' (USSR) 1962, v. 4, no. 2, p. 27-31.

DESCRIPTORS: *Leather, *Skin, Animals, Collagen, Sodium compounds, Sulfides.

Zahn, H., Heidemann, G. and others.
SYNTHETIC FIBERS: TRENDS IN PRODUCTION, DEVELOPMENT, AND RESEARCH. [1963] 14p.
Order from ATS ATS-84Q69G

Trans. of Angew[andte] Chem[ie] (West Germany) 1962, v. 74, no. 16, p. 599-605.

DESCRIPTORS: *Fibers (Synthetic), Production, Industrial research.

Zharkova, M. A. and Kudryavtsev, G. I.
COPOLYMERIZATION OF ACRYLONITRILE AND α-VINYLPYRIDINE IN AQUEOUS SOLUTIONS OF SODIUM THIOCYANATE, tr. by I. Gawronska. 27 Mar 62, 11p. 8 refs. Courtaulds Ltd. Misc. Lit. 3459; [DSIR] NLL M.3739.
Order from OTS or SLA $1.60 63-19817

Trans. of Khim[icheskie] Volok[na] (USSR) 1960, no. 3, p. 15-18.
Another trans. is available from ATS $12.60 as ATS-63M47R [1960] 7p.

DESCRIPTORS: *Fibers (Synthetic), Production, *Acrylonitriles, Vinyl radicals, *Pyridines, Copolymerization, Sodium compounds, *Thiocyanates, Solutions, Reaction kinetics, Catalysts, Temperature.

The dependence between the composition of acrylonitrile-α-vinylpyridine copolymer (AN:αVP) and the composition of the initial monomer mixture was investigated. In accordance with theoretical calculations the copolymer obtained always contains a large proportion of α-vinylpyridine. The laws governing the copolymerization of acrylonitrile with α-vinylpyridine in an aqueous solution of sodium thiocyanate, the effect of the reaction time, of the initial monomer concentration, of the amounts of initiator and controlling agent and of the reaction temperature were investigated. It was shown that the reaction rate is proportional to the value of the initial monomer concentration and to the square root of the initial concentration of initiator. (Author)

Zharkova, M. A., Kudryavtsev, G. J., and Klimenkov, V. S.
INVESTIGATION OF THE CONDITIONS FOR THE PRODUCTION OF ACRYLONITRILE-α-VINYL PYRIDINE COPOLYMER SUITABLE FOR THE SPINNING OF FIBRES, tr. by I. Gawronska. 5 Apr 62 [10]p. 4 refs. Courtaulds Ltd. Misc. Lit. 3466; [DSIR] NLL M.3764.
Order from OTS or SLA $1.10 63-19793

Trans. of Khim[icheskie] Volok[na] (USSR) 1960, no. 6, p. 15-19.

DESCRIPTORS: *Fibers (Synthetic), *Acrylonitriles, Vinyl radicals, *Pyridines, Copolymerization, Sodium compounds, *Thiocyanates, Molecular weight, Catalysts, Temperature, Reaction kinetics, Viscosity, Mechanical properties, Dyes.

The dependence between the molecular weight of the copolymer of AN with αVP and the conditions of the process have been examined. The effect of temperature, amount of initiator and controlling agent, and of monomer concentration on the molecular weight of the copolymer obtained were investigated. Laboratory conditions for the preparation of a spinning solution, suitable for the spinning of fibres, were selected. Fibres were spun into the spinning bath, consisting of salt solution. Fibres with satisfactory physico-mechanical properties were obtained with good dyeability towards acid, acetate and basic dyes. (Author)

Zharkova, M. A. [Rassolova, E. A.] and others.
THE COPOLYMERIZATION OF ACRYLONITRILE AND 2-METHYL-5-VINYLPYRIDINE IN AQUEOUS SOLUTION OF SODIUM THIOCYANATE, tr. by I. Gawronska. 27 Apr 62, 12p. 6 refs. Courtaulds Ltd. Misc. Lit. 3474; [DSIR] NLL M. 3781.
Order from OTS or SLA $1.60 63-19777

Trans. of Khim[icheskie] Volok[na] (USSR) 1961, no. 5, p. 13-17.
Another trans. is available from OTS or SLA $1.60 as 62-10723, 18 Dec 61 [13]p.

DESCRIPTORS: *Fibers (Synthetic), Production, *Acrylonitriles, Methyl radicals, Vinyl radicals, *Pyridines, Copolymerization, Sodium compounds, *Thiocyanates, Solutions, Reaction kinetics, Viscosity, Hydrogen ion concentration, Catalysts.

Photographic Materials

LIGHT-SENSITIVE COMPOSITIONS, FOR PHOTOGRAPHY AND PHOTOGRAPHIC REPRODUCTIONS. [1963] 18p. (tables omitted).
Order from OTS or SLA $1.60 63-16442

Trans. of French patent 1,302,610, PV no. 864,476, cl. internat. G 03 c, by Horizons Inc., U. S. A., filed 20 July 61, delivered 23 July 62 (pub. in Bull[etin] Off[iciel] de la Propriété Industrielle (France)

DESCRIPTORS: *Photographic recording media, *Plastics, *Amines, *Phenyl radicals, *Halogen compounds, *Sulfur compounds, Color film, Photosensitivity, Ultraviolet radiation, Photographic emulsions, Oxygen, Air, *Photographic images.

The invention concerns compositions which are light-sensitive and suitable for photography and photographic reproduction, and the method for utilizing such compositions. Particularly, the invention concerns the production of printed images, in colors, stable, produced by exposing to light compositions comprizing: a support material formed of a plastic binder or of a dispersing filmogenic medium, preverably dissolved in a suitable solvent, one or several arylamines, one or several compounds that are halogenated and are capable of producing radicals that are free of halogen by exposure to the ultraviolet or to visible light and one or several sulfur compounds which can be inorganic or organic sulfides and the compositions can also contain one or several supplementary constituents which affect the stability and/or the sensitivity of the system. (Author)

Kevlishvili, P. V.
THE APPLICATION OF ELECTRONIC COMPONENTS IN APPARATUS FOR HIGH-SPEED PHOTOGRAPHY (Primenenie Elementov Elektroniki v Apparature dlya Vysokoskorostnoi Fotografii) tr. by F. M. Janus. Mar 62 [2]p. S. M. R. E. Trans. no. 4618; [DSIR] NLL M. 3722.
Order from OTS or SLA $1.10 63-19829

Abstract trans. of Uspekhi Nauch[noi] Fotogr[afii] (USSR) 1959, v. 6, p. 91-92.

DESCRIPTORS: *High speed photography, *Image tubes, Electronic equipment.

Köllner, H.
POSSIBILITIES OF COLOR XEROGRAPHY. [1963] 14p. 21 refs.
Order from SLA $1.60 63-18069

Trans. of Bild und Ton (East Germany) 1962, v. 15, no. 2, p. 34-39.

DESCRIPTORS: *Electrophotography, *Color photography.

Morimoto, K., Murakami, Y., and Inami, A.
SYNTHESES OF ORGANIC PHOTOCONDUCTORS AND THEIR LIGHT-DECAY CHARACTERISTICS. [1963] 9p.
Order from ATS $7.00 ATS-92Q69J

Trans. of Denshi Shashin (Japan) 1962, v. 4, no. 2, p. 13-19.

DESCRIPTORS: Photoelectric materials, Infrared photoconductors, Organic materials, *Photoconductivity, *Light, Degradation, *Electrophotography.

Novikova, N. R. and Zakharov, V. I.
HYPERSENSITIZATION OF VERY FINE-GRAIN NUCLEAR EMULSIONS WITH TRIETHANOLAMINE. [1963] 12p. 12 refs.
Order from OTS or SLA $1.60 63-16634

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 2, p. 86-90.

DESCRIPTORS: *Photographic emulsions, Sensitivity, *Ethanols, *Amines, Photographic plates, Silver compounds, Bromides, Halides, Photographic images, Ions, Hydroxides.

The OH^- ion concentration is increased when an emulsion is hypersensitized with triethanolamine. This leads to a more efficient formation of the latent image. The Ag^+ -ion concentration is increased, which causes a more intense development and, possibly increases the sensitivity centers somewhat. The efficiency of development is also increased because of an increase in the OH^- ion concentration and an additional power of triethanolamine to dissolve the grains. (Author)

Poddubnaya, S. N.
METODOS PARA ELIMINAR LAS BURBUJAS EN EL PAPEL FOTOGRAFICO (O Metodakh Ustraneniya Puzyrei na Fotograficheskoi Bumage) (Bubble Elimination Methods in Photographic Paper). 16p. 3 refs.
CID: 62-258.
Order from OTS, ETC or CID $0.80 62-29258

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1955, v. 30, no. 7, p. 8-10.

DESCRIPTORS: *Photographic paper, Separation, Bubbles.

Protas, I. R. and Pruss, P. Kh.
CONCERNING THE DEPENDENCE OF THE RESOLVING POWER OF AN EMULSION LAYER ON ITS THICKNESS. [1963] 5p. 7 refs.
Order from OTS or SLA $1.10 63-16633

Trans. of Zhur[nal] Nauch[noi i] Priklad[noi] Fot[ografii i] Kinemat[ografii] (USSR) 1961, v. 6, no. 4, p. 294-296.

DESCRIPTORS: *Photographic emulsions, Thickness, Resolution, Silver compounds, Halides, Optical images, Films, Photographic film.

Roosens, L. and Dormael, A. van
ANTIHALO: A STUDY FROM THE SCIENTIFIC LABORATORY OF THE GEVAERT FACTORY, ANTWERP. [1962] 8p. (figs. omitted).
Order from SLA $1.10 63-10313

Trans. of Focus [Haarlem] (Netherlands) 1955, v. 40, no. 9, p. 194-198.

DESCRIPTORS: *Scientific research, *Belgium, *Optical properties, *Photographic recording media, Reflection, Light, Rings, *Antifogging agents.

Sheberstov, V. I.
QUANTUM OUTPUT OF THE PHOTOGRAPHIC PROCESS ON SILVER HALIDE EMULSIONS. [1963] 3p. 13 refs.
Order from OTS or SLA $1.10 63-18074

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 2, p. 141-142.

DESCRIPTORS: *Silver compounds, *Halides, *Photographic emulsions, *Photons, Photochemistry.

Uspenskii, V. L., Rodionova, N. I., and Chel'tsov, V. S.
THE EFFECT OF SULFITE ON THE ACTIVITY OF COLOR COMPONENTS AND DYE YIELD IN COLOR DEVELOPMENT. [1963] 12p. 8 refs.
Order from OTS or SLA $1.60 63-16709

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1961, v. 6, no. 5, p. 358-362. Another trans. is available from ATS $9.75 as ATS-13P61R [1962] 6p.

DESCRIPTORS: *Sulfites, *Dyes, Colors, *Photographic chemicals, *Color photography.

Vilenskii, Yu. B., Veretenova, T. N. and others.
TANNING OF PHOTOGRAPHIC MATERIALS. [1963] 3p.
Order from OTS or SLA $1.10 63-16715

Trans. of [Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii] (USSR) 1960, v. 5, no. 6, p. 401-402.

DESCRIPTORS: *Photographic emulsions, Processing, Viscosity, Color film, Coatings, Gelatin, Chromium compounds, Acetates, Glycerols.

Wagner, R.
IMPROVEMENTS IN THE PRODUCTION OF REPRODUCTION MATERIALS IN FORM OF SHEETS OR BELTS FOR THE PREPARATION OF AUTOGRAPHIC COPIES. [1963] 6p.
Order from OTS or SLA $1.10 63-16448

Trans. of Spanish patent 277,800, issued 21 May 62.

DESCRIPTORS: *Photographic recording media, *Photographic emulsions, Photographic film, Coatings, Plasticizers, Adhesives, Plastics, Paper, Alcohols, Polymers.

As object of this patent of invention it is claimed: Improvements in the production of reproduction materials of sheets or tapes for the preparation of autographic copies with alcohol, which have a support for the colored or inscribing coating consisting of a paper sheet or a plastic sheet; characterized by the use in its preparation of the colored coating of a much polymerized material, practically insoluble in alcohol, or a plasticized mixture of various much polymerized materials practically insoluble in alcohol, which act as agglutinants for a large amount of a colorant or chromogenous substance. (Author)

Zakharov, V. I. and Perfilov, N. A.
THE PROBLEM OF THE RELATION OF ELECTRON-SENSITIVITY OF NUCLEAR PHOTOEMULSIONS TO THE DIMENSIONS OF AgBr GRAINS. [1963] 5p. 5 refs.
Order from OTS or SLA $1.10 63-16711

Trans. of [Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii] (USSR) 1959, v. 4, no. 4, p. 300-301.

DESCRIPTORS: *Photographic emulsions, Radioactivity, Electrons, Sensitivity, Silver compounds, Bromides, Crystals.

Plastics

METHOD FOR THE MANUFACTURE OF POLYAMIDE HAVING A HYDROXYL GROUP FROM THE RAW MATERIAL OF DILACTONE AND DIAMINE. 20 June 63, 4p. 8842/59 Japan.
Order from INT $12.00

Trans. of Japanese patent 8842/59 by Ajinomoto Co. Ltd., filed 13 Oct 56.

DESCRIPTORS: Hydrazines, Lactones, *Polyamide plastics, Manufacturing methods, Hydroxides, Amines.

Beati, E., Toffano, S., and Severini, F.
A STUDY OF THE GRAFTING REACTION OF VINYL MONOMERS ON PEROXIDIZED POLY-α-OLEFINS. [1963] [13]p. 8 refs.
Order from CTS(Chem) $14.40 CTS(Chem)-343
subsequent copies $2.40/ea.

Trans. of [Ia] Chimica e [l']Industria (Italy) 1963, v. 45, no. 6, p. 690-695.

DESCRIPTORS: *Polyethylene plastics, *Peroxides, *Graft polymers, *Vinyl radicals, *Pyridines, Decomposition, Reaction kinetics.

Bort, D. N., Minsker, K. S. and others.
POLYETHYLENE STRUCTURES FORMATION DIRECTLY DURING THE PROCESSES OF POLYMERIZATION. [1963] 4p. 4 refs.
Order from OTS or SLA $1.10 63-18416

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 145, [no. 4] p. 787-788.

DESCRIPTORS: *Polyethylene plastics, *Molecular structure, Polymerization, Electron microscopy, Fibers (Synthetic).

Bort, D. P., Kronman, A. G. and others.
ELECTRON MICROSCOPE INVESTIGATION OF CRYSTALLINE POLYVINYL CHLORIDE. [1963] 6p. (figs. omitted) 8 refs.
Order from OTS or SLA $1.10 63-16718

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1962, v. 143 [no. 6] p. 1345-1347.

DESCRIPTORS: *Polyvinyl chloride, *Crystal structure, Electron microscopy, Polymers, Plastic films.

In films prepared from a solution of crystalline polyvinyl chloride in dichloro ethane, new (as compared to the literature) morphologic forms of the polymer were not discovered. A variety of the morphologic forms was shown: "macrobundles", complex forms, triangular forms, the usual polymeric forms, and also disklike forms, which were the boundaries of the polymer. It was also established that poisoning of the specimens revealed the cross-linkage character of the ribbons of the polymer, and the rupture of the specimen films under the electron beam revealed the high strength of the crystallites of the polymer. (Author)

Holden, Ellsworth Kissam.
PROCESS FOR OBTAINING MICROPOROUS FILMS AND COATINGS. [1962] 52p.
Order from OTS or SLA $5.60 63-14372

Trans. of [German patent application] B. 31.584, description in conjunction with Belgian patent filed by E. I. DuPont de Nemours and Company (Priority: U. S. 90815, 21 Feb 61) (one part of invention relating to French patent 1,225,729-14 Feb 59).

DESCRIPTORS: *Porous materials, *Plastic coatings, Films, Porosity, Polymers, Processing.

Imanishi, Y., Mizote, A. and others.
DETERMINATION OF THE REACTIVITY OF THE GROWING ION FROM THE CHAIN TRANSFER REACTION IN CATIONIC POLYMERIZATION. PT. I. COMPARISON BETWEEN PARA- AND ORTHO-CHLOROSTYRENE AND STYRENE. [1963] 14p.
Order from ATS $15.00 ATS-97Q69J

Trans. of Kobunshi Kagaku (Japan) 1963, v. 20, no. 213, p. 49-57.

DESCRIPTORS: *Styrene plastics, Styrenes, Polymerization, Ions, *Chain reactions.

Imoto, T., Ota, T, and Matsubara, T.
POLYMERIZATION OF ALDEHYDES. Pt. 2. HIGH-PRESSURE POLYMERIZATION OF CROTONALDEHYDE [1963] 9p.
Order from ATS $9.50 ATS-63Q69J

Trans. of [Nihon] Kagaku Zasshi (Japan) 1961, v. 82, no. 3, p. 378-381.

DESCRIPTORS: *Acetyl plastics, *Aldehydes, Polymerization.

Kargin, V. A.
STRUCTURAL PROCESSES DURING THE FLOW OF HIGH POLYMERS. 4 Apr 62 [1]p. T. 1384; [DSIR] NLL M. 8840.
Order from OTS or SLA $1.10 62-32817

Trans. of mono. Trudy Konferentsii po Vysokomolekulyarnym Soedineniyam (no. 1-2) Akademiya Nauk SSSR, [Otdeleniya Khim. i Fiziko-Matematicheskikh Nauk] 1943-44 (pub. 1945) p. 10-11.

DESCRIPTORS: *Polymers, *Polyethylene plastics, *Proteins, *Fibers, Elasticity, Plasticity.

Kato, Tohru.
PHENOL RESIN MANUFACTURING METHOD. [1963] 7p.
Order from OTS or SLA $1.10 63-16321

Trans. of Japanese patent publication SHO 37-16, 195, pub. 10 Oct 62, (application SHO 36-8, 170, 13 Mar 61) by Tokyo Shibaura Electric Co.

DESCRIPTORS: *Phenolic plastics, *Phenol-formaldehyde resins, *Thermosetting plastics, Catalysts, Anilines.

The invention concerns a synthetic phenol resin manufacturing method wherein halfway in a reaction taking place, with an alkaline catalyzer employed, between 1 mol of phenol and from 1.0 to 1.4 mol of formaldehyde, 0.4 to 1.4 mol of formaldehyde is again added and the catalyzer is replaced by an acid catalyzer, while from 0.4 to 1.0 mol of aniline is continuously projected therein for further reaction. (Author)

Khaletskii, M. M. and Sukhorukov, B. I.
POLYMERIZATION OF METHYLMETHACRYLATE IN A STRONG DIRECT ELECTRIC FIELD, tr. by Sergei Shewchuck. Jan 63 [10]p. (foreign text included) 13 refs.
Order from OTS or SLA $1.10 UCRL Trans-906 (L)

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3 [no. 9] p. 1347-1351.

DESCRIPTORS: *Acrylic resins, Electrical properties, Methyl radicals, Acrylic acid esters, Polymerization, *Electric fields, Direct current, Electrical conductance, *Electrets, Temperature, Heat of activation.

It was shown that the polymer obtained in the polymerization of methyl methacrylate in a strong direct electric field is an electret and the field applied with E up to 20 kV/cm does not lead to orientation of the polar groups. It was also found that the direct electric field causes a fall in the polymerization rate. A study of the electroconductivity during polymerization revealed a flare out of the former during the process. Certain regularities were found in the change in electroconductivity during the polymerization process at various temperatures and the activation energy of the process was determined. (Author)

Korotkov, A. A. and Rakova, G. V.
COPOLYMERIZATION OF ISOPRENE WITH STYRENE THROUGH BUTYLLITHIUM. [1963] 10p. 11 refs.
Order from OTS or SLA $1.10 63-18414

Trans. of Vysokomolekulyarnye Soed[ineniya] (USSR) 1961, v. 3 [no. 10] p. 1482-1490.

DESCRIPTORS: *Isoprene, *Styrenes, *Butyl radicals, *Lithium compounds, Copolymerization, Reaction kinetics, Catalysts.

The copolymerization of isoprene and styrene under the influence of butyllithium in benzene at 30° C was investigated (catalyst concentration 0.004 Mole/1, over-all monomer concentration 2 Mole/1). The composition of the copolymer as function of the initial monomer mixture obeys Wall's equation: $\lg A/A_0 = \alpha \lg B/B_0$. The monomer reactivity constants are $\alpha = 7.0 \pm 0.6$ (for isoprene), $\beta = 0.14 \pm 0.02$ (for styrene); $\alpha \cdot \beta \approx 1$. Separately, styrene polymerizes ca. 5 times as fast as isoprene, whereas on copolymerization as fast as isoprene, whereas on copolymerization isoprene proves to be the more active monomer. The "reversal of activity" of the monomers is explained by the stability of their intermediate complexes with lithium. The monomer reactivity ratios of isoprene and styrene are independent of the initial monomer ratios. (Author)

Korshak, V. V., Sladkov, A. M., and Luneva, L. K.
ORGANOMETALLIC POLYMERS (Elementoorganicheskie Polimery). [1963] 4p. 2 refs.
Order from OTS or SLA $1.10 63-18353

Trans. of #Akad[emiya] Nauk SSSR. Otd[delenie Khim[icheskikh] Nauk. Izvest[iya] 1962, no. 12, p. 2251-2253.

DESCRIPTORS: *Polymers, *Metal organic compounds, *Silicon, *Germanium, Acetylenes, *Silanes.

Polymers containing unsaturated carbon-carbon groups alternating with atoms of silicon or germanium in their chains were prepared from the bis-ethinyl compounds of silicon and germanium. (Author)

Lebedev, A. A.
INVESTIGATING PLASTIC BEARINGS WITH INVERTED FRICTION COUPLING. 27 May 63 [12]p. FTD-TT-63-242.
Order from OTS or SLA $1.60 63-23202

Unedited rough draft trans. of mono. Plastmassy v Mashinostroenii i Priborostroenii, Kiev, 1961, p. 335-340.

DESCRIPTORS: *Plastics, *Bearings, *Friction, *Couplings, Operation.

Mori, Kohjiro.
MOLDING RESIN COMPOSITION MANUFACTURING METHOD. [1963] 6p.
Order from OTS or SLA $1.10 63-16320

Trans. of Japanese patent publication SHO 37-16,438, pub. 13 Oct 62, (application SHO 35-11,440, 31 Mar 60) by Riken Gosei-jushi Co.

DESCRIPTORS: *Epoxy plastics, Molding materials, Amines, Manufacturing methods.

The invention involves an epoxy resin molding material manufacturing method wherein one or more kinds of such amines that contain, in one molecule, two active hydrogen atoms coupled with nitrogen atoms, containing no other active groups that are capable of reacting with epoxy resin and serving to produce, through reaction with a liquid epoxy resin, a product which is in a solid state at room temperature are mixed with a liquid epoxy resin, in such a ratio that the mol number of the active hydrogen of amino groups to the mol number of epoxide groups is between 0.3:1 and 0.7:1; then a curing agent is added to the resinous substance which is produced through heating and reaction processes and, if necessary, fillers, colorants, and/or other denaturants are also added thereto before kneading. (Author)

Morici, V. and Protospataro, F.
GAS PERMEABILITY OF PLASTIC FILMS. [1963] 18p.
Order from ATS $18.00 ATS-47Q70I

Trans. of Materie Plastiche (Italy) 1961, v. 27, no. 12, p. 1136-1145.

DESCRIPTORS: *Plastic films, Gases, Permeability.

Pied, Jean-Philippe.
PREPARATION AND PHYSICAL PROPERTIES OF VARIOUS POLYAMIDES (Préparation et Propriétés Physiques de Divers Polyamides). [1963] [94]p. (foreign text included) 56 refs.
Available from SLA on loan 63-18585

Trans. of Annales de Chimie (France) 1960 [ser. 13] v. 5, p. 469-527.

DESCRIPTORS: *Polyamide plastics, *Transition temperature, Amino acids, Copolymers, Condensation reactions, Excitation, Mechanical properties, Physical properties, Molecular structure, Organic acids, Synthesis.

Powell, T. C. and Steinle, M. E.
[PROCESS FOR MANUFACTURING SMALL SIZE CAPSULES]. [1963] 5p.
Available from SLA on loan 63-18313

Trans. of Belgian patent 609,550, issued 25 Oct 61 (Priority: USA, 28 Oct 60) by National Cash Register Co.

DESCRIPTORS: *Nucleation, *Encapsulation, *Acrylic plastics, Containers, Organic solvents.

The invention involves a method for manufacturing small capsules each having a wall of a polymeric material which encloses and retains a particle of liquid and/or solid nuclear substance characterized by the operations consisting in dissolving a hydrophobic polymeric substance in a liquid organic solvent; in adding under agitation and at a temperature higher than room temperature a substituting liquid miscible or soluble at a high degree, but not constituting a solvent for the said polymeric material, causing thus the separation of the latter from the solution and its deposition on the particles of nuclear substances introduced at any time into the system and playing the part of nuclei to form on them a deposition of the dense, liquid, polymeric substance, further, in bringing the temperature to the value of room temperature by means of repeated washing with substituting liquid which frees the so deposited walls from their solvent and hardens the walls until they become capable to be self-supported. The hydrophobic polymeric substance is any of the following substances; ethyl cellulose, methylmethacrylate, cellulose acetate. The substituting substance is a petroleum distillate. The separation of phase is induced at a temperature of about 70°C. The solvent is a mixture of 80% of toluene and 20% of ethanol. (Author)

Ryshavy, D. and Balaban, L.
EFFECT OF POLYMERIZATION CATALYSTS ON THE DESTRUCTION RATE OF ISOTACTIC POLYPROPYLENE. [1963] 6p. 4 refs.
Order from OTS or SLA $1.10 63-18410

Trans. of Vysokomolekulyarnye Soed[ineniya] (USSR) 1961, v. 3, no. 3, p. 470-474.
Other translations are available from OTS or SLA $1.60 as 63-10811, 9 May 62 [11]p. and from PP in Polymer Science USSR, v. 3, no. 1, $100.00/year.

DESCRIPTORS: *Polyethylene plastics, *Propenes, Polymers, Degradation, *Catalysts, *Ziegler catalysts, Aluminum compounds, Zinc compounds, Ethylenes, Titanium compounds, Chlorides, *Antioxidants.

The influence of the catalysts used during polymerization on the stability of isotactic polypropylene has been studied. It has been found that the catalytic system $TiCl_3$-$AlEt_3$ in its active form strongly accelerated degradation of the polymer at 200 C. Catalysts deactivated in air or methanol do not affect the degradation in inert media. In the presence of oxygen, however, they markedly influence the stability of the polymer, as well as of the polymer compounded with an antioxidant. (Author)

Tager, A. A. and Dreval, V. E.
VISCOSITY AND ACTIVATION HEATS OF CONCENTRATED POLYMER SOLUTIONS AS FUNCTION OF CONCENTRATION, TEMPERATURE AND NATURE OF SOLVENT. [1963] 7p. 12 refs.
Order from OTS or SLA $1.10 63-18422

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 145, no. 1, p. 136-139.

DESCRIPTORS: *Polymers, *Heat of activation, *Viscosity, Solvents, Solutions, Temperature, Polyetlylene plastics, *Styrene plastics, Butenes.

It was shown that very great values, and not small, of flow activation heats are characteristic for concentrated solutions of polymers, and also for the polymers proper. Great values of flow activation heats, surpassing by 8-20 fold those of low molecular liquids, attest that fractions moving independently are of very great size, i.e. chains or bundles, displaced in flow, which are harder, than it was assumed up-to-date. (Author)

Uskov, I. A.
FILLED POLYMERS. III. POLYMERIZATION OF METHYLMETHACRYLATE WITH THE DISPERSION OF SODIUM BENTONITE. [1963] [10]p. 9 refs.
Order from OTS or SLA $1.10 63-16596

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, no. 6, p. 926-930.
An abstract trans. is available from LC or SLA . mi$1.80, ph$1.80 in 61-13988, AID-60-80, 7 Nov 60, 2p.

DESCRIPTORS: *Methyl radicals, *Acrylic resins, *Sodium compounds, *Bentonite, Graft polymers, Polymerization, Fillers.

At the vibration disintegration of air-dry sodium bentonite blocks in a methylmethacrylate medium, this monomer is polymerized and polymethylmethacrylate is grafted onto the dispersed bentonite particles. Practically no homopolymer is formed in this case. In the presence of benzoyl peroxide, there occurs, in addition to the formation of a graft polymer, polymerization in the homogeneous phase. Optimal amounts of bentonite increase the polymerization rate of methylmethacrylate in the presence of benzoyl peroxide tens of times. Excess bentonite results in practically complete inhibition of polymerization. (Author)

Rubber and Elastomers

APPARATUS OF MANUFACTURING RUBBER PRODUCTS CONTINUOUSLY BY SOAKING PROCESS. 20 June 63, 5p. 10495/57 Japan.
Order from INT $15.00

Trans. of Japanese patent 10495/57 by Majiro Soga and Twao Itaya, filed 26 May 54.

DESCRIPTORS: *Rubber, Production, Processing.

Bianchi, Umberto and Bianchi, Estella.
ON A TRANSITION IN CIS-1, 4-POLYBUTADIENE. [1963] 7p. 7 refs.
Order from CTS(Chem) $6.00 CTS(Chem)-342
subsequent copies $1.00/ea.

Trans. of [la] Chimica e [l']Industria (Italy) 1963, v. 45, no. 6, p. 657-659.

DESCRIPTORS: *Elastomers, *Polyethylene plastics, *Butadienes, Physical properties, Transformations, Pressure, Rolling mills, Adhesion.

Kuchenbuch, J.
THE CHEMISTRY OF UNSATURATED POLYESTER RESIN LACQUERS [Zur Chemie der Ungesättigten Lack-Polyesterharze). [1963] [24]p. (foreign text included) refs.
Order from SLA $2.60 63-16786

Trans. of Fette Seifen Anstrichmittel (West Germany) 1960, v. 62, no. 4, p. 326-332.

DESCRIPTORS: *Varnishes, *Polyester plastics, Corrosion inhibition, Additives, Wood, Pigments, Metal coatings, Chemical analysis, Plastic prints.

The author deals with the essential constituents of unsaturated polyester resins and gives various methods to prevent the inhibiting action of atmospheric oxygen during the filmbilding, such as addition of small amounts of paraffin. New methods for the synthesis of polyester resins suitable for coatings are given which do not require the addition of paraffins. Some of the problems, the importance of which is once again emphasized upon, are: the inhibiting roll of some materials contained in wood, the questions of pigmentation and the problem of metal coatings with paints containing polyester resins. (Author)

Marconi, W., Araldi, M. and others.
SOME ASPECTS OF THE STEREOSPECIFIC POLYMERIZATION OF BUTADIENE WITH CATALYSTS BASED ON TITANIUM HALIDES. [1963] [14]p. 17 refs.
Order from CTS(Chem) $13.20 CTS(Chem)-339
subsequent copies $2.20/ea.

Trans. of [la] Chimica e [l']Industria (Italy) 1963, v. 45, no. 5, p. 522-528.

DESCRIPTORS: *Elastomers, *Polyethylene plastics, *Butadienes, Polymerization, Metalorganic compounds, *Ziegler catalysts, *Titanium compounds, Halides, *Aluminum compounds, Ethyl radicals, Chlorides, Iodides.

Mazzei, A., Cucinella, S. and others.
POLYMERIZATION OF BUTADIENE BY MEANS OF TITANIUM AMINES AND ALUMINUM DERIVATIVES. [1963] [11]p. 13 refs.
Order from CTS(Chem) $10.00 CTS(Chem)-340
subsequent copies $1.50/ea.

Trans. of [la] Chimica e [l']Industria (Italy) 1963, v. 45, no. 5, p. 528-532.

DESCRIPTORS: *Elastomers, *Polyethylene plastics, *Butadienes, Polymerization, Metalorganic compounds, *Ziegler catalysts, *Titanium compounds, Amines, *Aluminum compounds, Alkyl radicals, Hydrides.

Zgonnik, V. N., Dolgoplosk, B. A. and others.
SOME RELATIONSHIPS IN THE PROCESS OF BUTADIENE POLYMERIZATION UNDER THE INFLUENCE OF CATALYTIC SYSTEMS, CONTAINING COBALT. [1963] 5p. 5 refs.
Order from OTS or SLA $1.10 63-18424

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 145, no. 6, p. 1285-1287.

DESCRIPTORS: *Butadines, Catalysis, Chlorides, Cobalt compounds, Pyridines, *Aluminum compounds, Butyl radicals, Molecular weight, Polymerization, *Ziegler catalysts, *Cobalt catalysts.

Some new data on relationships in the process of polybutadiene polymerization under the influence of a homogenous catalytic system, composed of the pyridine complex of cobalt chloride with diisobutyl-aluminum-chloride, are reported. The polymerization of butadiene was carried out in benzene solution, at temperatures of 5 to 50°C, with monomer concentrations of 1.2 mole/L., in the presence of $CoCl_2Py_2$:2.1 • 10-5 mole/L. and $Al(iso\text{-}C_4H_9)_2Cl$:1.5·10^{-2} mole/L. (the polymer yield was around 40%).

Wood and Paper

MANUFACTURING PROCESS OF A SEMI-CHEMICAL PAPER PULP. [1963] 8p.
Order from OTS or SLA $1.10 63-18017

Trans. of Belgian patent 504,423, appl. 3 July 51, granted, 31 July 51, pub. 7 Nov 52, by Zellstofffabrik Waldhof.

DESCRIPTORS: *Wood pulp, *Paper, Chemical industry, Manufacturing methods.

The invention concerns a process for the manufacturing of semi-chemical pulp from cellulosic raw materials, such as deciduous, resinous or coniferous woods, annuals, etc. by a gentle cook using bisulphite liquors; the liquors are aqueous SO_2 solutions with a base such as calcium, magnesium, sodium, ammonia, aluminum, etc. A mechanical refining follows. The process is characteristic in that the cooking is done at temperatures of 115 to 140°C with a liquor of SO_2 concentration of 1.4 to 3% and of a pH value of 3 to 6; this results in a minimum hydrolytic degradation of the cellulose, in a weaker attack on the hemicelluloses and in an almost selective removal of the lignin present in the middle lamella which binds the fibres together. (Author)

SIZE PREPARATION FOR THE PAPER MANUFACTURE. 20 June 63, 5p. 5204/59 Japan.
Order from INT $13.50

Trans. of Japanese patent 5204/59 by Kindai Kagaku Kogyo Co. Ltd., filed 9 Aug 57.

DESCRIPTORS: *Paper, Measurement.

Brecht, W. and Heyn, D.
THE SMOOTHNESS OF CALENDERED PAPERS AND ITS DEPENDENCE ON ATMOSPHERIC HUMIDITY. Apr 63, 11p. (figs. omitted) 8 refs.
Order from SLA $1.60 63-18282

Trans. of Wochenbl[att] für Papierfabrikation (West Germany) 1958 [v. 86] no. 23/24, p. 1037-1043.

DESCRIPTORS: *Paper, Surface properties, Humidity.

Ivanov, S. N.
LAS NORMAS DE PRODUCTIVIDAD DE LAS MAQUINAS DE PAPEL CONTINUO (O Normakh Proizvoditel' nosti Bumagodelatel'nykh Mashin) (Productivity Standards in Continuous Paper Manufacturing Machines). 16p. 2 refs. CID: 62-210.
Order from OTS, ETC or CID $0.80 62-29210

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1956, v. 31, no. 7, p. 9-12.

DESCRIPTORS: *Paper, Machines, Effectiveness, Standardization.

Ivanov, S. N.
LOS DEFECTOS EXTERNOS DEL PAPEL Y LOS MEDIOS DE EVITARLO (Vneshnie Defekty Bumagi i ikh Preduprezhdenie) (External Defects of Paper and Means of Obviating Same). 22p. CID: 62-204.
Order from OTS, ETC or CID $0.86 62-29204

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1955, v. 30, no. 4, p. 24-30.

DESCRIPTORS: *Paper, Quality control.

Ivanov, S. N.
NUEVO METODO DE DETERMINACION RAPIDA DE LA CONCENTRACION DE LA PASTA DE PAPEL (Novyi Sposob Bystrogo Opredeleniya Kontsentratsii Bumazhnoi Massy) (New Paper Pulp Concentration Rapid Determination Method). 5p. CID: 62-208.
Order from OTS, ETC or CID $0.80 62-29208

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1960, v. 35, no. 5, p. 31.

DESCRIPTORS: *Wood pulp, Determination, Paper.

Ivanov, S. N.
ROTURAS DEL PAPEL EN LA MAQUINA DE FABRICACION DEL MISMO Y FORMA DE EVITARLAS (Obryvy Bumagi na Bumagodelatel'noi Mashine i ikh Preduprezhdenie) (Paper Tearing in Paper Manufacturing Machines and Means of Preventing It). 9p. CID: 62-209.
Order from OTS, ETC or CID $0.80 62-29209

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1955, v. 30, no. 9, p. 21-22.

DESCRIPTORS: *Paper, Manufacturing methods, Machines.

Kalistratov, G. A. and Skvortsova, Z. Ya.
ELIMINACION DE LA RESINA PERJUDICIAL EN EL PROCESO DE TRITURACION DE LA PASTA PARA PAPEL (Udalenie Vrednoi Smoly v Protsesse Razmola Massy) (Elimination of Obnoxious Resin in the Paper Pulp Pounding Process). 11p. CID: 62-203.
Order from OTS, ETC or CID $0.80 62-29203

Trans. in Spanish Bumazhnaya Promyshlennost' (USSR) 1961, v. 36, no. 5, p. 9-10.
Another trans. is available in English from OTS or SLA $1.10 as 62-14358 [1961] [5]p.

DESCRIPTORS: *Wood pulp, *Chemical impurities, Separation, Paper, Processing.

Karneicheva, L. V.
PERGAMINO PARA CONSERVAR CANGREJOS, HECHO CON PASTA AL SULFATO MEJORADA (Krabovyi Pergament iz Sul'fatnoi Oblagorozhennoi Tsellyulozy) ("Crab" Parchment Paper from Refined Sulphate Cellulose) 6p. CID: 62-215.
Order from OTS, ETC or CID $0.80 62-29215

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1955, v. 30, no. 10, p. 23.
Another trans. is available in English from OTS or SLA $1.10 as 62-16510, Feb 62, 2p.

DESCRIPTORS: *Paper industry, *Cellulose, Wood pulp, *Sulfate pulp, Cotton cellulose.

Klauditz, W. and Buro, A.
THE SUITABILITY OF SAWDUST FOR PARTICLEBOARD MANUFACTURE (Eignung von Sagespänen für Holz-panplatten). [1963] [17]p. 11 refs.
Order from SLA $1.60 63-16784

Trans. of Holz als Roh- und Werkstoff (West Germany) 1962, v. 20, no. 1, p. 19-26.

DESCRIPTORS: *Fiberboard, *Wood, Binders, Adhesives, Adhesion, Impregnation, Density, Production, Mechanical properties.

Klopov, V. M.
FABRICACION DE PASTA DE MADERA A PARTIR DE VIRUTAS (Drevesnaya Massa iz Shchepy) (Manufacture of Wood-pulp from Wood Shavings). 16p. 5 refs. CID: 62-206.
Order from OTS, ETC or CID $0.80 62-29206

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1958, v. 33, no. 4, p. 25-27.

DESCRIPTORS: *Wood pulp, Manufacturing methods.

Lönnerberg, A. L.
A METHOD OF UTILIZING THE BOILING LYE USED IN THE CHEMICAL MANUFACTURE OF PAPER PULP. [1963] 3p.
Order from OTS or SLA $1.10 63-14538

Trans. of Swedish patent 2,758, pub. 18 Apr 1891, pat. from 29 Apr 1890.

DESCRIPTORS: *Wastes (Industrial), Liquids, *Wood pulp, Alkali metal compounds, Chemical precipitation, Impurities, Plastics, Colloids, Separation, *Centrifuges, *Black liquor.

Luhde, Friedrich.
THE INFLUENCE OF CONVENTIONAL AND DISK-REFINED GROUNDWOOD PROCESSES ON WOOD DEFIBRATION. [1963] 27p. 7 refs.
Order from SLA $2.60 63-16642

Trans. of das Papier (West Germany) 1962, v. 16, no. 11, p. 655-663.

DESCRIPTORS: *Wood pulp, Fibers (Natural), Lignin, Material separation.

Marpillero, P.
MANUFACTURING PROCESS OF SEMI-CHEMICAL FIBROUS PULPS. [1963] [23]p.
Order from OTS or SLA $2.60 63-18018

Trans. of Belgian patent 496 841, to A. B. I. Azienda Brevetti Industriali, appl. 7 July 50, granted 31 July 50, pub. 3 Nov 50.

DESCRIPTORS: *Cellulose, *Fibers (Natural), Processing, *Sulfur compounds, *Dioxides, Calcium compounds, Oxides, Sodium compounds, Carbonates, Materials, Lignin, Pectins, Carbohydrates, *Wood pulp.

The invention concerns a new process for the manufacture of semi-chemical fibrous pulps from almost all type of cellulose containing materials. This process compared with the best of other similar processes shows an extraordinary saving in chemicals and a lower heat consumption. It is also possible to use in this process such materials as annuals which have not until now been successively processed to fibrous pulps. The yield obtained in this process is very high and in some cases even higher than that obtained from similar processes. The liquor used in this process contains a very small amount of SO_2, in fact so small an amount that it would be considered as insufficient in other processes using the same chemical. Also, this process apart for a very small quantity of lime does not consume appreciable amounts of alkali such as sodium which is expensive and is used in other processes giving equivalent yields as this process. (Author)

Rozenberger, N. A.
INFLUENCIA DE LAS DISTINTAS CLASES DE "BASE" SOBRE LA COCCION SULFITICA DE LA MADERA. (Vliyanie Razlichnykh Vidov "Ocnovaniya" na Sul'fitnuyu Varku Drevesiny) (Influence of Different "Base" Classes on Sulphitic Cooking of Wood). 21p. 12 refs. CID: 62-223.
Order from OTS, ETC or CID $0.83 62-29223

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1956, v. 31, no. 3, p. 6-10.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 59-10227 [1958] [7]p.

DESCRIPTORS: *Wood pulp, Sulfites, Processing.

Solomko, V. S.
APROVECHAMIENTO DE LOS RESIDUOS DE SERRERIA Y DE ALMACENES DE LEÑA, PARA LA FABRICACION DE PASTA DE PAPEL AL SULFATO (Ispol'zovanie Otkhodov Lesopileniya i Lesozagotovok dlya Proizvodstva Sul'fatnoi Tsellyulozy) (Utilization of Saw-mill and Lumber Store Residues in the Manufacture of Sulphate Paper Pulp). 14p. CID: 62-239.
Order from OTS, ETC or CID $0.80 62-29239

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1955, v. 30, no. 5, p. 27-28.

DESCRIPTORS: *Sulphate pulp, Production, Wood, Sawmills.

Suchil'nikov, N. G.
UTILIZACION ECONOMICA DE LA MADERA EN LA INDUSTRIA DEL PAPEL Y DE LA CELULOSA (Ekonomno Ispol'zovat'Drevesinu v Tsellyulozno-bumazhnoi Promyshlennosti) (Low Cost Utilization of Wood in the Paper and Cellulose Industry). 7p. CID: 62-219.
Order from OTS, ETC or CID $0.80 62-29219

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1955, v. 30, no. 9, p. 26-27.

DESCRIPTORS: *Paper, *Cellulose, *Wood, Production.

Tol'skii, G. A.
INFLUENCIA DE LA CONCENTRACION DE LA PASTA SOBRE LA CALIDAD DE LA CAPA ELEMENTAL FORMADA (Vliyanie Kontsentratsii Massy na Kachestvo Formiruemogo Elementarnogo Sloya) (Influence of Pulp Concentration on the Quality of the Elementary Layer Obtained). 18p. CID: 62-230.
Order from OTS, ETC or CID $0.80 62-29230

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1955, v. 30, no. 10, p. 7-10.
Another trans. is available in English from SLA mi$1.80, ph$1.80 as 60-18443, Aug 60.

DESCRIPTORS: *Wood pulp, Paper, Processing.

Zosim, Z. [L].
INFLUENCIA DE LA DESTRUCCION TERMICA DE LA CELULOSA SOBRE LA ELIMINACION DE SUS IMPUREZAS MINERALES (Vliyanie Termodestruktsii Tsellyulozy na Udalenie iz Nee Mineral'nikh Primesei) (Influence of Thermal Degradation of Cellulose on the Elimination of its Mineral Impurities). 7p. 6 refs.
CID: 62-202.
Order from OTS, ETC or CID $0.80 62-29202

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1959, v. 34, no. 7, p. 9.
Another trans is available in English from OTS $0.50 as 63-11090, 1963, 2p.

DESCRIPTORS: *Cellulose, Decomposition, Chemical impurities, Separation, *Wood pulp, *Minerals.

MATHEMATICS

JOURNAL OF COMPUTER MATHEMATICS AND MATHEMATICAL PHYSICS, 1962, VOL. 2, NO. 2: SELECTED ARTICLES. 20 May 63 [76]p. 44 refs.
FTD-TT-62-1582.
Order from OTS or SLA $7.60 63-23099

Unedited rough draft trans. of Zhurnal Vychislitel'noi Matematika i Matematicheskoi Fiziki (USSR) 1962, v. 2, no. 2, p. 195-205, 255-289.

DESCRIPTORS: Computers, *Mathematics, Physics, Differential equations, Integration, Bodies of revolution, Supersonic characteristics, *Supersonic flow, Delta wings, *Aerodynamic configurations, *Aerodynamic characteristics, Gas flow, *Numerical analysis.

Contents:
Iteration methods in solution of a linear boundary problem, by V. E. Shamanskii
Investigation of flow past bodies of revolution at supersonic speed, by P. I. Chushkin
Numerical solution for the problem of the flow of a supersonic stream past the upper surface of a triangular wing, by D. A. Babaev.

Barantsev, R. G.
RIGOROUS SOLUTION OF CERTAIN BOUNDARY PROBLEMS FOR THE EQUATION $\psi_{\sigma\sigma} - K(\sigma)\psi_{\theta\theta} = 0$ IN THE HYPERBOLIC BAND $\sigma_0 \leqslant \sigma \leqslant \sigma_1$, tr. by B. W. Kuvshinoff. 24 Jan 62 [32]p. 13 refs. APL/JHU TG 230-T270.
Order from OTS or SLA $4.60 62-23711

Trans. of Leningrad U. Vestnik (USSR) 1958 [v. 13] no. 19 [Seriya Matematiki, Mekhaniki i Astronomii, no. 4] p. 19-38.

DESCRIPTORS: *Boundary value problems, Differential equations, Fourier analysis, Series, Integrals, Integral transforms.

A method is given for the effective exact solution of the boundary-value problem for the equation $L(\psi) \equiv \psi_{\sigma\sigma} - K(\sigma)\psi_{\theta\theta} = 0$ in the hyperbolic strip $S\{\sigma_0 \leqslant \sigma \leqslant \sigma_1, -\infty < \theta < +\infty\}$ with boundary conditions along straight lines $\sigma = \sigma_0, \sigma = \sigma_1$ and a curve $\theta = s(\sigma)$, joining these lines s, admits corner points. Two cases are considered: (1) when s is oriented on the σ-axis, then Cauchy data are given on s; and (2) when s is a characteristic, then values of ψ only are given on s. In both cases ψ is constant on the boundary of the strip s. The solution is sought in the form of a series of the known partial solutions of the equation in which the parameter λ_n runs over multiplicity of the eigenvalues of the Sturm-Liouville problem that is obtained when $l(x) \equiv 0$. Corresponding expansion theorems in terms of functions, which are generalized solutions of a nonself-adjoint equation of the form $\bar{z}'' + (p_{11}\lambda + p_{10})\bar{z}' + (p_{22}\lambda^2 + p_{22})\bar{z} = 0$, are provided by the method of contour integrating in the λ-plane with the application of asympotic formulas. Contour integrals are constructed by means of generalized Fourier transforms.

Brudnyi, Y. A. and Timan, A. F.
CONSTRUCTIONAL CHARACTERISTICS OF COMPACT SETS IN BANACH SPACES AND THE ε-ENTROPY. [1963] [8]p. 10 refs.
Order from OTS or SLA $1.10 63-14774

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 126, no. 5, p. 927-930.

DESCRIPTORS: *Topology, Functions, *Functional analysis, Sequences, Entropy.

Dzhems-Levi, G. E.
SOME GENERAL METHODS OF PRACTICAL NOMOGRAPHY (Nekotorye Obshchie Metody Prakticheskoi Nomografii) tr. by C. Tee. [1963] [49]p. (foreign text included) 14 refs. [DSIR] NLL M.3858.
Order from OTS or SLA $4.60 63-19893

Trans. of Vychislitel'naya Matematika (USSR) 1959, no. 4, p. 104-149.

DESCRIPTORS: *Nomographs, Preparation.

Fishman, I. S. and Stolov, A. L.
CALCULATION OF THE ERRORS OF SPECTRAL ANALYSIS BY CONTINUOUS MEASUREMENT, II, tr. by R. Matthews. May 62 [32]p. 5 refs. NP-tr-937.
Order from OTS or SLA $3.60 63-23479

Trans. of Kazan U. Uch[enye] Zap[iski] (USSR) 1955, v. 115, no. 12, p. 57-71.

DESCRIPTORS: *Spectrographic analysis, *Errors, Calibration, Least squares method.

Gakhov, F. D. and Smagina, V. I.
EXCEPTIONAL CASES OF INTEGRAL EQUATIONS OF THE CONVOLUTION TYPE AND EQUATIONS OF THE FIRST KIND. 29 May 63 [45]p. 12 refs.
FTD-TT-63-181.
Order from OTS or SLA $4.60 63-23443

Unedited rough draft trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Matematicheskaya, 1962, v. 26, no. 3, p. 361-390.

DESCRIPTORS: *Integral equations, *Boundary value problems.

Integral equations with difference kernels for cases when the coefficient of the corresponding Riemann boundary value problem reverts to zero or to an infinity of an integral order are investigated. Equations of the first kind are studied, in particular. Here the Riemann-problem coefficient has a zero or a pole at the point at infinity. (Author)

Gurin, L. S. and Lobach, V. P.
A COMBINATION OF THE MONTE-CARLO METHOD WITH THE QUICKER TRIGGER ACTION METHOD FOR SOLVING CERTAIN EXTREMAL PROBLEMS. 24 May 63 [8]p. 1 ref. FTD-TT-63-231
Order from OTS or SLA $1.10 63-23425

Unedited rough draft trans. of Zhurnal Vychislitel'noi Matematiki i Matematicheskoi Fiziki (USSR) 1962, v. 2, no. 3, p. 499-502.

DESCRIPTORS: *Monte Carlo method, Algorithms, Programming (Computers), Functions, *Numerical methods and procedures, *Complex variables.

Kalinin, V. N.
EXISTENCE OF AN ABSOLUTE MINIMUM IN ONE PROBLEM OF THE THEORY OF OPTIMUM PROCESSES. 6 Aug 63, 4p. 3 refs. JPRS: 20501.
Order from OTS $0.50 63-31456

Trans. of Akademiya Nauk SSSR. Doklady, 1963, v. 150, no. 1, p. 21-22.

DESCRIPTORS: *Control, Theory, *Calculus of variations, Functional analysis.

The article attempts to provide the groundwork for direct methods relevant to a problem in the theory of optimal control. Theorems are presented, and joining the well known results of Tonelli in the classical calculus of variations and establishing the conditions for the existence of an absolute minimum in the formulated problem and minimizing the order converging to the element realizing this absolute minimum. (Author)

Krasovskii, N. N.
ONE OPTIMAL CONTROL PROBLEM. [1963] 12p. 9 refs.
Order from OTS or SLA $1.60 63-14455

Trans. of Prikl[adnaya] Matem[atika] i Mekhan[ika] (USSR) 1957, v. 21, no. 5, p. 670-677.
Another trans. is available from LC or SLA mi$2.40, ph$3.30 as 60-18806 [1960] 13p.

DESCRIPTORS: *Control systems, Mathematical analysis, *Difference equations, *Differential equations.

For abstract see Technical Translations 5: 147, 1961.

Krotov, V. F.
METHODS FOR THE SOLUTION OF VARIATIONAL PROBLEMS ON THE BASIS OF THE SUFFICIENT CONDITIONS FOR THE ABSOLUTE MINIMUM, PT. I. Mar 63 [12]p. 14 refs.
Order from OTS or SLA $1.60 63-14731

Trans. of #Avtomatika i Telemekhanika (USSR) 1962, v. 23, no. 12, p. 1571-1583.

DESCRIPTORS: *Calculus of variations, *Differential equations, Control, Theory.

Sufficient conditions of optimality of systems described by a finite number of common differential equations are derived. On the basis of these conditions a single formalism of solution of variational problems for such systems is constructed and within its boundaries different methods are considered which permit to solve the variational problems completely. (Author)

Lukasiewicz, Jan.
ELEMENTS OF MATHEMATICAL LOGIC, 2D ED., tr. by Olgierd Wojtasiewicz. 1963, 124p. 35 refs. PL-480 Comm.
Order from OTS $1.50 61-11302

Trans. of mono. Elementy Logiki Matematycznej, 2d ed., Warsaw, 1958, 98p.

DESCRIPTORS: *Mathematical logic.

Mikeladze, Sh. E.
A NUMERICAL SOLUTION OF THE HEAT TRANSFER EQUATION. 15 May 63 [66]p. 24 refs. FTD-TT-63-196.
Order from OTS or SLA $6.60 63-23437

Unedited rough draft trans. of Akademiya Nauk Gruzinskoi SSR, Tiflis. Mathematicheskii Institut. Trudy, 1960, v. 27, p. 367-410.

DESCRIPTORS: *Heat transfer, Difference equations, *Differential equations, Numerical analysis.

Topics include: Error analysis; general linear nonhomogeneous equation of the second order with two variables; numerical solution of heat-conduction equation; a critical survey of certain investigations devoted to the problems of approximating a one-dimensional heat-conduction equation by means of difference equations; solving the heat-conduction equation with an aid of a system of equations; and multidimensional problems.

Mitrinovic, D. S.
SOME FORMULAS CONCERNING THE LEGENDRE POLYNOMIALS [Neke Formule Koje se Odnose na Legendre-ove Polinome] tr. by M. Ollsen and W. Hartman. 1960 [28]p. 21 refs.
Order from OTS or SLA $2.60 62-24060

Trans. of [Belgrad U. Elektrotehnicki Fakultet. Publikacije: Serija Matematika i Fizika] (Yugoslavia) 1956, no. 1 [p. 1-20].

DESCRIPTORS: *Polynomials, *Integrals, Integration.

Pritulo, M. F.
ON THE DETERMINATION OF THE UNIFORMLY ACCURATE SOLUTIONS TO DIFFERENTIAL EQUATIONS BY MEANS OF THE METHOD OF THE PERTURBATION COORDINATES. Jan 63 [10]p. 1 ref.
Order from OTS or SLA $1.10 63-14398

Trans. of #Prikladnaya Matematika i Mekhanika (USSR) 1962, v. 26, no. 3, p. 444-448.

DESCRIPTORS: *Differential equations, Numerical analysis, *Taylor's series, Perturbation theory.

When looking for the approximate solutions of differential equations, containing a certain parameter ε, the method is applied consisting in the expansion of the accurate solution in series with respect to the powers of ε and the computation of several of its first coefficients. We proceed analogously also in the case, when the small parameter is not included in the differential equation, but only in the boundary conditions. Quite frequently the solution of the zero order has inside of the considered domain special surfaces, not characteristic to the accurate solution of the equation. In solutions of a higher order these peculiarities are not only preserved, but they become expressed ever more sharply. Consequently, near such special surfaces the series with respect to the powers of ε are diverging and the method of the small parameter does not yield the solution. The indicated difficulties can be eliminated, if not only the unknown function but also the independent variables are expanded in series with respect to the powers of ε. (Author)

Sundman, Karl F.
MEMOIRS ON THE 3-BODY PROBLEM. [1963] [90]p. 8 refs.
Order from SLA $8.10 63-14670

Trans. of Acta Mathematica (Sweden) 1912/1913, v. 35, p. 105-179.

DESCRIPTORS: *N-body problem, Equations of motion, Differential equations, Integrals, Real variables, Functions.

Contents:
Introduction
Differential equations of movement and their known integrals
Determination of the lower boundary of the converging beam of the developments of the coordinates near the moment at which all distances between the bodies are greater than zero
Determination of the different cases which may present themselves when the movement ceases to be regular, for real and finite values of t
The case where two of the bodies collide at a finite instant t_1, while their distances to the third body strive toward a limit greater than zero
Introduction of a new independent variable u
Study of the case where one of the distances is small with respect to the two others
Definition of a real continuation of movement after collision
Determination of the lower limit of R in the case where all three constants of the areas are zero
Determination of a lower limit of the coverging rays of the develop-with powers of $u - u_1$
Introduction of a new independent variable ω.

PROBLEMS IN THE MECHANIZATION OF STATISTICS AND BOOKKEEPING. 1 Aug 63, 12p. JPRS: 20449.
Order from OTS $0.50 63-31431

Trans. from Ekonomicheskaya Gazeta (USSR) 1963, no. 21 [94] p. 35-37.

DESCRIPTORS: *Computers, *Electronic accounting machines, Statistical analysis.

A series of articles on a "Business Club" discussion touching on the following topics: The need for the reorganization of accounting methods; the role of scientific research in the mechanization of accounting; the need to devote special attention to rural bookkeeping; gains in mechanized bookkeeping in Donetskiy Sovnarkhoz, Gosbank USSR, and Kazakhstan SSR; the need for skilled machine operators; the need for proper organization of computer centers; and, recommendations of the "Business Club".

Matyukhin, N. Ya., Bruk, I. S. and others.
MAQUINARIA CALCULADORA ELECTRONICA UNIVERSAL M-3 DE PEQUEÑO TAMAÑO (Malogabaritnaya Universal'naya Tsifrovaya Elektronnaya Vychislitel'naya Mashina M-3) (M-3 Universal Electronic Small Size Computer). 23p. CID: 62-279.
Order from OTS, ETC or CID $0.89 62-29279

Trans. in Spanish of Elektrichestvo (USSR) 1958, no. 1, p. 49-54.

DESCRIPTORS: *Computers, Electronic equipment.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
DATA PROCESSING AND PROGRAMMING. Feb 63, 61p. 1001 refs. OTS Selective Bibliography SB-474, suppl. 1.
Order from OTS $0.10 SB-474, Suppl. 1

DESCRIPTORS: *Bibliographies, *Data processing, *Programming (Computers), Programming languages, *Computers, *Automation, *Control systems.

Lists 1001 domestic and foreign references on data programming, processing and coding added to the OTS collection during the period September 1961 to February 1963. Covers research on automatic programming of machine tools; air weapons control systems; linear programming by computers; mathematical computations; sampled data systems; real time data processing; machine translation; automatic language analysis; information processing automatic coding systems; programming techniques for navigation, meteorology and communication facilities; automatic error analysis; automatic coding systems; computer engineering, etc. (Author)

MECHANICS

Alabuzhev, P. M., Shpigel'burd, I. Ya., and Borisova, A. N.
MOTION OF AN ASYMMETRICAL GYROSCOPE PENDULUM. 10 June 63 [12]p. 8 refs. FTD-TT-63-467.
Order from OTS or SLA $1.60 63-23438

Unedited rough draft trans. of Izvestiya [Vysshikh] Uchebnykh Zavedenii. Mashinostroenie (USSR) 1962, no. 6, p. 64-70.

DESCRIPTORS: Motion, *Equations of motion, *Gyroscopes, Gyro compasses, Differential equations, Integration.

Differential equations were derived for the motion of a gyro pendulum having small asymmetry relative to the polar axis with small deflections from the vertical. The equations were integrated for the case where only one moment of gravity acts on the compass. This permits a precise analysis of the influence of the static and dynamic asymmetry of the pendulum.

Anson, P. I.
THE CALCULATION OF STRENGTH OF FLANGE JOINTS IN CYLINDERS OF TURBINES. [1963] [17]p. 6 refs. [DSIR] NLL M. 3893.
Order from OTS or SLA $1.60 63-19947

Trans. of Energomashinostroenie (USSR) 1962, v. 8, no. 1, p. 24-29.

DESCRIPTORS: *Bolted joints, Metal joints, *Engine cylinders, Turbines, *Stresses, Bolts, Locking fastener devices, Mathematical analysis, *Flanges.

Methods of calculating the strength of flange joints in cylinders of turbines described. Demonstrated that the results of calculations satisfactorily coincide with the empirical data obtained on a model of flange joint. (Author)

Cherkesov, L. V.
TRANSIENT OSCILLATIONS OF THE FREE SURFACE AND THE INTERFACE OF TWO FLUIDS UNDER THE ACTION OF SHIFTING PRESSURES. 5 Feb 63 [7]p. 4 refs. FTD-TT-62-1838.
Order from OTS or SLA $1.10 63-19090

Unedited rough draft trans. of Akademiya Navuk BSSR [Minsk]. Vestsi. Seriya Fizika-Tekhnichnykh Navuk, 1962, no. 1, p. 30-33.

DESCRIPTORS: *Oscillation, Surface properties, *Fluids, Mechanical waves, Pressure.

Transient waves occurring on the free surface and on the interface of two fluids was investigated. Under the action of a periodical shifting system of pressures applied to the free surface in an infinite band the waves occuring on the interface differ from those on the free surface only in their amplitudes.

Coupry, Gabriel.
A RELATION BETWEEN ATTENUATION IN SPACE AND ATTENUATION IN TIME. [1962] 5p.
Order from SLA $1.10 62-18782

Trans. of Acad[emie] des Sciences [Paris]. Comptes Rendus (France) 1961, v. 253, no. 15, p. 1524-1526 (pub. by Gauthier-Villars et Cie., Paris).

DESCRIPTORS: Structures, *Elasticity, Mathematical analysis, *Differential geometry, Attenuation.

The response is sought of an elastic structure which is slightly viscous and harmonically excited to the frequency of one of its nonattenuated modes on several points or in several zones of its boundary. The attenuation in space of each of the components of the forced vibration can be calculated from a knowledge of the attenuation in time of the free response of the structure when at least one of the space variables separates. (Author)

Dumov, V. I.
CALCULATION OF THE PRESSURE-HEAD CHARACTERISTICS OF AXIAL HELICAL IMPELLERS. 11 June 63 [17]p. 4 refs. FTD-TT-63-407.
Order from OTS or SLA $1.60 63-23096

Unedited rough draft trans. of Teploenergetika (USSR) 1962 [v. 9] no. 11, p. 23-27.

DESCRIPTORS: *Impellers, *Fluid mechanics, Centrifugal pumps, Cavitation, Axially symmetric flow.

A method of calculating the pressure-head characteristics of helical impellers is given, permitting us to determine the pressure-head and the rate of flow from a chosen configuration of the impeller. The results of experimental investigations to ascertain the dependence of the hydraulic losses on the fundamental geometrical and regime parameters of the impeller are reported. (Author)

Lyshevskii, A. A.
EXPERIMENTAL INVESTIGATION INTO THE DEVELOPMENT OF THE JET OF ATOMIZED LIQUID AND THE GENERALIZATION OF EXPERIMENTAL RESULTS ON THE ANGLE OF THE JET'S CONE (Eksperimental'noe Issledovanie Razvitiya Strui Raspylennoi Zhidkosti i Obobshchenie Opytnykh Dannykh po Uglu Konusa Strui). June 63 [27]p. 9 refs. RTS 2272.
Order from OTS or SLA $2.60 63-23237

Trans. of Politekhnicheskii Institut, Novocherkassk. Trudy (USSR) 1960, v. 107, p. 3-22.

DESCRIPTORS: *Jets, *Liquid jets, Liquids, *Atomization, Test equipment, Test methods, Experimental data, Equations, Nozzles, *Fluid flow, Fuel sprays, Fuel injection, *Fuel oil.

Mangeron, D. and Croitoru, E.
ON THE GENERAL THEORY OF REDUCED ACCELERATIONS IN TANGENTIAL COORDINATES. [1963] [6]p. 12 refs.
Order from OTS or SLA $1.10 63-14415

Trans. of Akademiya Nauk SSSR. Doklady, 1963, v. 148, no. 1, p. 54-56.

DESCRIPTORS: *Acceleration, Theory, Equations of motion, Analytic geometry.

A treatment of the systematic use of the methods for tangential geometry in investigations, concerning: envelopes of certain straight lines, connected with units of mechanisms in the plane-parallel motion; envelopes of certain planes, connected with units of mechanisms in a complicated spatial motion; and, dual problems, i.e. ruled surfaces, formed by certain straight lines, connected with units of mechanisms in a complicated spatial motion.

Obmorshev, A. N.
COMPUTING AN OSCILLATING SYSTEM FOR STABILITY WITH THE AID OF COMPLEX COORDINATES. 18 June 63 [13]p. 7 refs. FTD-TT-63-329.
Order from OTS or SLA $1.60 63-23441

Unedited rough draft trans. of mono. Raschety Detalei i Mekhanizmov Tochnykh Priborov, Moscow, 1960, p. 39-49.

DESCRIPTORS: *Oscillation, *Stability, *Equations of motion, *Complex variables, Algebra, Real variables, Gyroscopes.

Smirnov, M. D.
THE PROBLEM OF STRESS IN THE FIR-TREE ROOT OF A BLADE (K Voprosu o Napryazhennom Sostoyanii Zuba Elochnogo Zamba Lopalki). [1963] [7]p. (foreign text included) 6 refs. [DSIR] NLL M 3966.
Order from OTS or SLA $1.10 63-19863

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1959, no. 2, p. 156-158.

DESCRIPTORS: *Turbine blades, Turbine wheels, *Stresses, Mathematical analysis.

Timma, E.
TURBULENT CIRCULAR AND FLAT STREAMS DEVELOPING IN A COUNTERFLOW. 24 May 63 [15]p. 5 refs. FTD-TT-63-372.
Order from OTS or SLA $1.60 63-23191

Unedited rough draft trans. of Akademiya Nauk Estonskoi SSR [Tallinn. Izvestiya]. Seriya Fiziko-Matematicheskikh i Tekhnicheskikh Nauk, 1962 [v. 11] no. 4, p. 253-262.

DESCRIPTORS: *Turbulence, *Fluid dynamic properties, Fluid flow, Velocity, Temperature, Nozzles, Tests, Measurement.

Vulis, V. A., Leontieva, T. P. and others.
TRANSFER PROCESSES IN A FREE (JET) TURBULENT BOUNDARY LAYER. 16 May 63 [20]p. 14 refs. AID rept. T-63-73; AD-404 909.
Order from OTS or SLA $1.60 63-19579

Trans. of paper presented at the Conference on Heat and Mass [Transfer] Minsk [5-10] June 61.

DESCRIPTORS: *Jets, *Turbulent boundary layer, Heat transfer, Mass transfer, Velocity, Experimental data, Temperature, *Fluid dynamic properties, Tests.

Aerodynamics and Pneumatics

HERALD OF LENINGRAD UNIVERSITY: MATHEMATICS, MECHANICS, AND ASTRONOMY SERIES, 1962 [VOL. 17] NO. 7: SELECTED ARTICLES. 3 June 63 [62]p. 6 refs. FTD-TT-63-392.
Order from OTS or SLA $6.60 63-23440

Unedited rough draft trans. of Leningrad U. Vestnik (USSR) 1962 [v. 17] no. 7, Seriya Matematiki, Mekhaniki i Astronomii no. 2, p. 62-74, 87-116.

DESCRIPTORS: Mathematics, Mechanics, Astronomy, *Supersonic flow, *Aerodynamic configurations, Conical wings, Wings, Conical bodies, *Supersonic characteristics, *Aerodynamic characteristics, Numerical analysis.

Contents:
A conical wing in a supersonic gas flow, by A. S. Avdonin
An approximate analytical solution of the irrotational equations of supersonic flow past developable wings, by I. A. Popova
An analytical solution to the problem of supersonic gas flow past a lattice of conical vanes, I, by N. V. Smirnov.

PNEUMATICALLY OPERATED TELESCOPIC MAST, tr. by F. H. B. 8 Mar 63, 8p. (figs. omitted).
Order from OTS or SLA $1.10 63-19069

Trans. of French patent 466,824, gr. VII, cl. 1, by Société A. Siewert & Cie, Germany, appl. 29 Dec 13, granted 14 Mar 14, pub. 25 May 14.

DESCRIPTORS: *Antenna masts, *Pneumatic systems, Design, Operation.

The present invention relates to a telescopic mast in which nested tubes are extented by means of compressed air or another compressed gas.

Bulakh, B. M.
ON THE THEORY OF CONICAL FLOWS. [1963] 4p. 2 refs.
Free copies available from Boeing Scientific Research Labs. Liberty as Boeing Trans. R75. When supply is exhausted, order from OTS or SLA $1.10, 63-18317

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1957, v. 21, no. 1, p. 143-144.

DESCRIPTORS: Gas flow, Velocity, Numerical analysis, *Conical bodies, *Supersonic flow.

(See also 63-18316)

Bulakh, B. M.
ON THE THEORY OF CONICAL FLOWS. [1963] 5p. 1 ref.
Free copies available from Boeing Scientific Research Labs. Library as Boeing Trans. R74. When supply is exhausted, order from OTS or SLA $1.10, 63-18316

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1954, v. 18, no. 4, p. 452-453.

DESCRIPTORS: Gas flow, Velocity, Numerical analysis, *Conical bodies, *Supersonic flow, *Axially symmetric flow.

Froishteter, G. B.
THE PROBLEM OF THE DETERMINATION OF THE RESISTANCE OF A BURNING FUEL BED. [1963] 12p. 5 refs. NCB Trans. A. 1991/SEH; [DSIR] NLL M. 3900.
Order from OTS or SLA $1.60 63-19941

Trans. of Teploenergetika (USSR) 1959 [v. 6] no. 5. p. 50-55.

DESCRIPTORS: *Combustion, *Flames, Fuels, Porous materials, Friction, Test equipment, Test methods, *Aerodynamics.

The paper is devoted to an investigation of the aerodynamics of a burning bed of constant height before its stability is disturbed. (Author)

Lapin, Yu. V.
TURBULENT BOUNDARY LAYER IN A GAS FLOW WITH HEAT TRANSFER AND A PRANDTL NUMBER DIFFERENT FROM UNITY. 14 May 63 [16]p. 3 refs. FTD-TT-63-284. AD-405 720
Order from OTS or SLA $1.60 63-19657

Unedited rough draft trans. of P[olitekhnicheskii Institut] L[eningrad]. Trudy (USSR) 1961, no. 217, p. 27-36.

DESCRIPTORS: *Turbulent boundary layer, *Gas flow, *Heat transfer, Friction, Supersonic flow, Equations, Numerical analysis.

The solution is obtained for the flow of gas with a moderate pressure gradient and with an arbitrary temperature distribution at the wall since the Karman semiempirical theory is used. The influence of the pressure gradient is calculated only across the external flow. The temperature range is examined in which the Prandtl number and the specific heat can be considered constant, regardless of temperature. The analytical expression is obtained for the parameter H = δ^*/δ^{**} depending on the conditions at the wall and at the exterior boundary layer. The final formula obtained in this article for the calculation of friction does not require the use of various types of auxiliary graphs and tables, as in other existing methods. This advantage can prove to be beneficial in a number of cases. The calculation of heat transfer is based on Reynold's analogy. (Author)

Mel'nikov, D. A. and Cherkez, A. Ya.
SUPERSONIC FLOW PAST A FLAT TRIANGULAR PLATE [AND] CERTAIN PROPERTIES OF SUPERSONIC FLOW IN THE INITIAL SECTION OF A GAS EJECTOR. 5 June 63 [35]p. 5 refs. FTD-TT-63-375.
Order from OTS or SLA $3.60 63-23421

Unedited rough draft trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Mekhanika i Mashinostroenie, 1962, no. 6, p. 33-49.

DESCRIPTORS: *Supersonic flow, Flat plate models, Angle of attack, Shock waves, *Gas flow, Jets, Nozzles, Supersonic characteristics, Jet pumps.

METALLURGY

HARD-SOLDERING ALLOYS. 20 June 63, 6p. 3/60 Japan.
Order from INT $18.00

Trans. of Japanese patent 3/60 by The Mond Nickel Co. Ltd., Gt. Britain, filed 29 Sep 58.

DESCRIPTORS: *Soldering alloys, Silver solders.

IMPROVEMENTS RELATING TO HARD SOLDERING ALLOYS. 24 June 63, 6p. 7373/60 Japan.
Order from INT $16.50

Trans. of Japanese patent 7373/60 by The Mond Nickel Co. Ltd., Gt. Britain, filed 29 Sep 58.

DESCRIPTORS: *Soldering alloys, Silver solders.

IMPROVEMENTS RELATING TO HARD-SOLDERING ALLOYS. 25 June 63, 7p. 8466/60 Japan.
Order from INT $19.50

Trans. of Japanese patent 8466/60 by The Mond Nickel Co. Ltd., Gt. Britain, filed 29 Sep 58.

DESCRIPTORS: *Soldering alloys, Silver solders.

METHOD OF OBTAINING MATERIALS FOR IRON FROM FERROUS SLUDGE. 24 June 63, 5p. 8202/60 Japan.
Order from INT $15.00

Trans. of Japanese patent 8202/60 by Yawata Seitetsu, filed 15 Mar 58.

DESCRIPTORS: *Iron, Metallurgy, Slags.

TREATING METHOD FOR IRON ORE, ETC.
24 June 63, 10p. 2752/60 Japan.
Order from INT $30.00

Trans. of Japanese patent 2752/60 by Yukio Nogiwa, filed 4 Nov 57.

DESCRIPTORS: *Iron, Ores (Metal sources), Metallurgy.

TREATING METHOD FOR LEAD SLUG. 14 June 63, 12p. 8655/54 Japan.
Order from INT $34.50

Trans. of Japanese patent 8655/54 by Ichizoo Kindaichi. filed 25 Mar 53.

DESCRIPTORS: *Lead, Metallurgy, Slags.

Aidarkin, B. S., Gorshkov, G. V. and others.
A METHOD OF DETERMINING BERYLLIUM IN ORES FROM PHOTONEUTRONS, tr. by J. M. Crabtree: Sep 58 [7]p. 2 refs. NP-tr-201.
Order from OTS or SLA $1.10 63-23289

Trans. of A[kademiya] N[auk] SSSR. Radievyi Institut. Trudy, 1957, v. 5, no. 2, p. 89-93.

DESCRIPTORS: *Beryllium, Ores (Metal Sources), Minerals, Determination, *Gamma-neutron reactions, Artificial radioactivity, Geiger counters, Nuclear industrial applications, Neutron activation, Radioactivation analysis, *Photonuclear reactions.

The nuclear photoelectric effect in beryllium and the artificial radioactivity caused by the passage of neutrons through a substance permit measurement to Be concentrations in ores from neutron radiation. Be concentrations were determined by comparing the artificial radioactivity of a target produced (under similar conditions) by the photoneutrons of a sample and a standard. For a given strength of γ-emitter the induced radioactivity, within sufficiently wide limits, is proportional to the beryllium concentration. When an ampoule containing 48.5 mg radium-equivalent was used as the γ-ray source, and silver as the indicator, it was possible to measure samples with Be concentrations of 0.1%; the error of the determination, for an overall length of time for the measuring operations of 1.5 hours, is several tens percent using a radioactive source emitting a considerable quantity of neutrons from the same preparation. With a Be concentration of about 0.5% the error decreases to approximately 10%. For higher concentrations (and the same observation times), the error decreases approximately proportionally to the square root of the concentration, i.e. with a Be concentration of 5% the error is approximately 3%, with 50%-about 1% and so on. (Author)

Aksenov, Gennadii Ivanovich.
FUNDAMENTALS OF POWDER METALLURGY: SELECTED PARTS. 26 Aug 63, 62p. 29 refs. JPRS: 20810.
Order from OTS $1.75 63-31626

Trans. of mono. Osnovy Poroshkovoi Metallurgii, Kuibyshev, 1962, p. 21-27, 85-89, 114-122, 138-166.

DESCRIPTORS: *Powder metallurgy, Industrial production, Hydrostatic pressure, Metal forming presses, Powder metals, Sheets, Rods, Rolling mills, Sintering, Bibliographies.

Contents:
Production of powder and its properties
Pressing of powders
Powder rolling
Sintering
Bibliography.

Becken.
POSSIBILITIES OF THE APPLICATION OF THE ELECTRO-KEY WELDING METHOD. Quarterly rept. 1-2, Mar-Oct 61, on Contract 046-61-3RDA. [1962] 4p.
Order from OTS or SLA $1.10 EURAEC-219

Trans. of a rept. from Schweisstechnische Lehr- und Versuchanstalt, Duisburg (West Germany) Oct 61.

DESCRIPTORS: *Welding, Sheets, Wire, Powder metallurgy, Materials, Nucleation.

Becvar, J.
ARE CONDITIONS IN CZECHOSLOVAKIA SUITABLE FOR THE INTRODUCTION OF THE KALDO PROCESS? Aug 63.
Order from BISI £ 3 15s BISI-3322

Trans. of Hutnik (Czechoslovakia) 1962, v. 12, no. 7, p. 331-335.

DESCRIPTORS: *Metallurgy, *Oxygen, Installation, Production, Costs, Czechoslovakia.

Benesovsky, F. and Rudy, E.
CLASSIFICATION OF THE PSEUDO-TERNARY SYSTEMS OF SINTERED CARBIDES. May 63, 2500 words.
Order from HB $6.80 HB-5845

Trans. of Metall (West Germany) 1960 [v. 14] no. 9, p. 875-878.

DESCRIPTORS: *Carbides, Bonding, Sintering, Classification, High temperature research.

Bockstiegel, Gerhard.
THE INFLUENCE EXERTED BY THE INITIAL AND BY REPRESSING PRESSURES AND THE SINTERING TEMPERATURE ON THE PROPERTIES OF SINTERED PARTS MADE WITH TECHNICAL IRON POWDER (Einfluss des Vor- und Nachpressdruckes sowie der Sintertemperatur auf die Eigenschaften von Sinterteilen aus Technischen Eisenpulvern). [1963] 34p. (foreign text included) 16 refs.
Order from SLA $3.60 63-16877

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1957, v. 28, no. 3, p. 167-177.

DESCRIPTORS: Powder metals, *Iron, *Powder metallurgy, Sintering, Pressure, Temperature, Density, Tensile properties, Failure (Mechanics), Electrical conductance.

The relation and influence of pressure in the range of 3 to 9 tons per square centimeter (12,600 to 128,000 psi) and sintering temperature to a maximum of 1250 centigrade on the density, tensile strength, elongation at breaking, electrical conductivity and the repressing of sintered samples was studied. Four samples were made from four different iron powders, some obtained by simple reduction, some by electrolytic reduction and some by combination. (Author)

Chermak, L. L.
THE SHAFT SMELTING OF OXIDIZED NICKEL ORES WITH OXYGEN-ENRICHED BLAST (Shakhtnaya Plavka Okislennykh Nikelevykh Rud na Obogashchennom Kislorodom Dut'e). May 62 [13]p. (foreign text included) 3 refs. [DSIR] NLL M. 3961.
Order from OTS or SLA $1.60 63-19868

Trans. of mono. Primenenie Kisloroda na Metallurgi[cheskikh] Prediyatiyakh Urala [Materialy Koordinatsionnogo Soveshchaniya, Sverdlovsk, 20-21 Dec 56] (Utilization of Oxygen by the Ural Metallurgical Enterprises [Papers of] Co-ordinating Conference on the Use of Oxygen in Metallurgy) 1960, p. 111-115.

DESCRIPTORS: Blast, Oxygen, Ores (Metal sources), *Nickel compounds, Oxides, Smelting, Shafts, Metallurgy, Conferences.

Dessain, R.
ACCELERATING MELTING USING AUXILIARY OXYGEN NATURAL GAS BURNERS IN A 10 TONNE ELECTRIC FURNACE CHARGED WITH 16 1/2 TONNES. July 63.
Order from BISI £2 BISI-3218

Trans. of Centre de Documentation Sidérurgique. Circulaire d'Informations Techniques (France) 1961, v. 18, no. 9, p. 2033-2038.

DESCRIPTORS: *Electric furnaces, *Natural gas, Oxygen, Melting, Acceleration. Coke.

Diepschlag, Ernst and Horn, Ernst.
CONCERNING THE CONVERSION OF IRON SULFIDE, MANGANESE SULFIDE AND CALCIUM SULFIDE WITH THE OXIDES OF IRON AND THE SIDE REACTIONS TAKING PLACE (Über die Umsetzungen von Eisensulfid, Mangansulfid und Kalziumsulfid mit den Oxyden des Eisens and Dabei Auftretende Nebenreaktionen). [1963] [26]p. (foreign text included) 30 refs.
Order from SLA $2.60 63-16738

Trans. of Archiv für das Eisenhüttenwesen (Germany) 1931, v. 4, no. 8, p. 375-382.

DESCRIPTORS: Chemical reactions, Iron, Oxides, *Sulfides, *Calcium compounds, *Manganese compounds, *Iron compounds.

Fahlenbrach, Hermann.
NEW DEVELOPMENTS IN THE DOMAIN OF MAGNETIC MATERIALS (Neuentwicklungen auf dem Gebiete der Magnetischen Werkstoffe). [1963] [26]p. (foreign text included) 38 refs.
Order from SLA $2.60 63-16739

Trans. of Verein Deutscher Ingenieure. Zeitschrift (West Germany) 1950, v. 92, no. 21, p. 565-570.

DESCRIPTORS: *Magnetic materials, Magnetic alloys, Magnets, Powder alloys, Sintering.

Fast, J. D. and Bruning, H. A. C. M.
DECARBURIZATION AND DENITRIDING OF IRON-SILICON ALLOYS. June 63.
Order from BISI £3 10s BISI-2844

Trans. of Z[eitschrift für] Elektrochemie (West Germany) 1959, v. 63, no. 7, p. 765-772 (Philips) [Gloeilampenfabrieken] N. V. [Eindhoven] (Netherlands). Separaat-2794).

DESCRIPTORS: *Silicon alloys, *Iron alloys, *Nitrides, Reduction, Chemical reactions.

Geodakyan, V. A. and Zhukhovitskii, A. A.
A SENSITIVE METHOD FOR THE DETERMINATION OF DIFFUSION COEFFICIENTS. [1963] 10p. 13 refs.
Order from OTS or SLA $1.10 AEC-tr-5663

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1957, v. 31, no. 10, p. 2295-2301

DESCRIPTORS: *Annealing, *Diffusion hardening, Diffusion, Measurement, *Tracer studies, Absorption.

Gerlach, J., Pawlek, F., and Wuth, W.
REMOVAL OF ZINC FROM BLAST-FURNACE FLUE DUST. May 63, 1900 words.
Order from HB $4.75 HB-5804

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 26, p. 1855-1857.

DESCRIPTORS: Particles, Blast furnaces, *Zinc, Recovery, Smelting, Zinc compounds, Oxides, Thermodynamics.

Gorshkov, A. A., Markhasev, B. I. and others.
MEJORA DE LA CALIDAD DE ARENAS DE MOLDEO POR ADICION DE PEQUEÑAS CANTIDADES DE SALES (Uluchshenie Kachestva Formovochnykh Smesei Putem Vvedeniya Malykh Dobavkov Solei) (Improvement in Molding Sands Characteristics Through the Addition of Small Amounts of Salts). 27p. 6 refs. CID:62-267.
Order from OTS, ETC or CID $1.01 62-29267

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1959, no. 2, p. 34-38.

DESCRIPTORS: Effectiveness, *Molding materials, Additives, Salts, *Sand.

Huttig, G. F.
STUDIES CONCERNING THE DECREASE OF THE CONTENT OF CARBON, SULPHUR AND OXYGEN DURING THE SINTERING OF IRON POWDERS IN A HYDROGEN ATMOSPHERE (Untersuchungen über die Abnahme des Gehaltes von Kohlenstoff, Schwefel- und Sauerstoff wahrend des Sinters von Eisenpulver in einer Wasserstoffatmosphäre). [1963] 8p. (foreign text included) 3 refs.
Order from SLA $1.10 63-16747

Trans. of Archiv für Metallkunde (Germany) 1947, v. 1, no. 7/8, p. 359-361.

DESCRIPTORS: Atmosphere, Hydrogen, *Powders, *Iron, *Sintering, Oxygen, Sulfur, Carbon, Chemical analysis, *Powder metallurgy.

Kantor, M. M., Biryukova, E. V. and others
ESTUDIO DEL REGIMEN DE RECOCIDO DE PIEZAS DE FUNDICION GRIS (Issledovanie Rezhima Otzhiga Otlivok iz Serogo Chuguna) (Study of the Annealing Rate of Grey-Iron Parts). 12p. CID: 62-271.
Order from OTS, ETC or CID $0.80 62-29271

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1957, no. 2, p. 17-18.

DESCRIPTORS: *Iron alloys, Castings, Heat treatment.

Kiselev, S. T.
A SPERICAL MOULD FOR BESSEMER-MATTE COOLING (Sfericheskaya Izlozhnitsa dlya Okhlazhdeniya Fainshteina). Aug 62 [8]p. (foreign text included) 4 refs. [DSIR] NLL M. 3944.
Order from OTS or SLA $1.10 63-19923

Trans. of #Tsvetnye Metally (USSR) 1962, v. 35, no. 6, p. 78-80.

DESCRIPTORS: Cooling, Copper compounds, Sulfides, Material separation, *Molding, Geometric forms, Configuration, Bessemer process.

Knüppel, H., Stumpf, A., and Fricke, A.
MATHEMATICAL STATISTICS FOR USE IN IRON AND STEEL WORKS. I. THE PLANNING AND EVALUATION OF TESTS AND WORKS RECORDS. June 63.
Order from BISI £6 15s BISI-2809 (PT. II)

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1961, v. 32 [no. 12] p. 883-892.

DESCRIPTORS: *Steel industry, *Iron industry, Statistical analysis, Mathematics, Management engineering.

Korotkov, V. G.
DESGASIFICACION DE ALEACIONES DE ALUMINIO CON CORRIENTE CONTINUA A BAJA PRESION (Degazatsiya Alyuminievykh Splavov Postoyannym Tokom pri Ponizhennom Davlenii) (Degasification of Aluminum Alloys with Low Pressure Direct Current). 15p. 1 ref. CID: 62-272.
Order from OTS, ETC or CID $0.80 62-29272

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1957, no. 2, p. 20-22.

DESCRIPTORS: *Aluminum alloys, *Degasification, Direct current, Low pressure research.

Landa, I.
SUSTITUCION PARCIAL DEL COKE POR LIGNITO EN LA HORNADA DE UN CUBILOTE DE SOPLADO CALIENTE (Chastichaya Zamena Koksa Burym Uglem v Shikhte Vagranki s Podogrevom Dut'ya) (Partial Substitution of Lignite for Coke in the Furnace Charge of Hot Blown Smelter). 5p. CID: 62-268.
Order from OTS, ETC or CID $0.80 62-29268

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1958, no. 10, p. 31.

DESCRIPTORS: Fuels, Coke, *Lignite.

Lendl, A. E. and Preissler, R.
THE ROLLING OF CONTINUOUS WELDED BILLETS. July 63.
Order from BISI £5 BISI-3253

Trans. of Verein Deutscher Ingenieure. Zeitschrift (West Germany) 1958, v. 100 [no. 5] p. 165-171.

DESCRIPTORS: *Rolling mills, Steel, *Casting, *Welding.

Mahoux, G.
ELECTROMAGNETIC SURFACE HARDENING OF ALLOYS (Durcissement Électromagnétique Superficiel des Alliages). [1963] [45]p. (foreign text included).
Order from SLA $4.60 63-16808

Trans. of Revue Générale de Mécanique (France) 1932, v. 16, no. 225, p. 459-469.

DESCRIPTORS: *Electromagnetic waves, High frequency, Surface properties, *Hardening, Alloys, *Nickel alloys, *Chromium alloys, *Molybdenum alloys, *Steel, Austenite, *Iron, Castings, *Aluminum alloys, *Magnesium alloys, Microstructure.

Maloi, S. A.
COQUILLA MULTIPLE CON MECANISMO PARA CORTE DE COLADA (Mnogomestnyi Kokil's Mekhanizmom dlya Srezaniya Litnikov) (Multiple Chill-mould for Batch Cut-off). 6p. CID: 62-274.
Order from OTS, ETC or CID $0.80 62-29274

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1956, no. 11, p. 13.

DESCRIPTORS: *Molding, Casting.

Meuldijk, P. W.
AUTOMATIC TWO-STOREY ELECTRO-GALVANISING PLANT. Feb 63.
Order from BISI £2 BISI-3083

Trans. of Blech (West Germany) 1962, v. 9 [no. 5] p. 258-260.

DESCRIPTORS: *Industrial plants, Design, Automatic, Metallurgy.

Nikolaev, G. A.
PROSPECTS FOR WELDING DEVELOPMENT IN THE USSR. USSR Industrial Development: Soviet Regional Economy no. 59. 30 July 63, 9p. JPRS: 20422.
Order from OTS $0.50 63-31419

Trans. of #Vestnik Mashinostroeniya (USSR) 1963 [v. 43] no. 5, p. 3-8.

DESCRIPTORS: *Welding, Metallurgy

Petrov, L. A.
ACERCA DEL APROVECHAMIENTO COMPLETO DE LOS RESIDUOS DE TOSTACION DE PIRITAS (K Voprosu Kompleksnogo Ispol'zovaniya Piritnykh Ogarkov) (Total Utilisation of Pyrites Roasting Furnaces). 20p. 5 refs. CID: 62-296.
Order from OTS, ETC or CID $0.80 62-29296

Trans. in Spanish of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Metallurgiya i Toplivo, 1960, no. 3, p. 22-27.

DESCRIPTORS: *Pyrites, Heat treatment.

Polisyuk, E. P.
SECADO DE MOLDES DE FUNDICION CON RAYOS INFRARROJOS (Sushka Liteinykh Form Infrakrasnymi-Luchami) (Infrared Foundry Mold Drying). 6p. CID: 62-273
Order from OTS, ETC or CID $0.80 62-29273

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1957, no. 2, p. 1.

DESCRIPTORS: *Infrared radiation, Castings, *Molding.

Prenosil, B.
PROTECTIVE ATMOSPHERES SATURATED WITH LITHIUM VAPOUR. July 63.
Order from BISI £4 10s BISI-3202

Trans. of Strojirenstvi (Czechoslovakia) 1959, v. 9, no. 12, p. 939-942.

DESCRIPTORS: *Vapors, *Lithium, Lithium compounds, Metals, *Heat treatment.

Pristupa, A. M.
AUTOMATIC WELDING APPLIED TO FIRE-ASSEMBLY OF BLAST FURNACE COMPONENTS. [1962] 6p.
Order from RIS $10.00 RIS E-769

Trans. of Montazhnye i Spetsializirovannye [Raboty v Stroitel'stve] (USSR) 1960 [v. 22] no. 11, p. 15-17.

DESCRIPTORS: *Electroslag process, *Arc welding, Automatic, Construction, *Blast furnaces, Welding.

Rajakovics, E. von.
IMPROVEMENT OF THE NOTCH IMPACT STRENGTH OF 13% CHROME STEEL CASTINGS. July 63.
Order from BISI £2 10s BISI-3312

Trans. of Giesserei (West Germany) 1963, v. 50 [no. 1] p. 3-6.

DESCRIPTORS: *Castings, *Steel, Chromite, *Stainless steel, Mechanical properties.

Roll, A.
ELECTROPLATING UNDER ULTRASOUND. May 63, 5700 words.
Order from HB $14.25 HB-5938

Trans. of [Galvanotechnik] (West Germany) 1957 [v. 48] no. 5, p. 194-204.

DESCRIPTORS: Vibration, *Ultrasonics, *Electroplating, Sound transmission, Acoustics.

Rutman, M. M.
SOLUCION DE SILICATO SODICO COMO MEDIO PARA LUCHAR CONTRA LAS CONTRACCIONES DE LA FUNDICION DE HIERRO (Zhidkoe Steklo, kak Sredstvo Bor'by s Uzhiminami na Chugunnykh Otlivkakh) (Utilisation of Sodium Silicate Solution in the Prevention of Cast Iron Contractions). 9p. CID: 62-263.
Order from OTS, ETC or CID $0.80 62-29263

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1956, no. 10, p. 29-30.

DESCRIPTORS: *Sodium compounds, *Silicates, *Iron alloys, Castings.

Ryzhikov, A. A.
SOBRE LA CRITICA DE LOS METODOS DE CALCULO DE MAZAROTAS (K Kritike Metodov Rascheta Pribylei) (Criticism of Methods Employed in Dead-Head Determination). 16p. 15 refs. CID: 62-275.
Order from OTS, ETC or CID $0.80 62-29275

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1956, no. 11, p. 30-32.

DESCRIPTORS: Determination, *Castings.

Schaaber, Otto.
NEW DEVELOPMENTS IN THE FIELD OF CONTINUOUS CASTING. [1963] [27]p. (figs. omitted) 42 refs.
Order from SLA $2.60 63-16832

Trans. of [Zeitschrift für] Metallkunde (West Germany) 1952, v. 43, p. 181-190.

DESCRIPTORS: *Casting, *Steel, *Cooper, *Aluminum.

After general review of the process of solidification in the usual ingot casting and in continuous rod casting, the factors determining the degree of difficulty in casting are discussed. The casting properties of steel, copper and aluminum are compared. (Author)

Schneider, A. and Siegfriedt, H. -P.
THE SILICONIZING AND TITANIZING OF IRON, NICKEL AND COPPER. July 63.
Order from BISI £ 3 BISI-3279

Trans. of [Metall] (West Germany) 1959, v. 13 [no. 6] p. 547-549.

DESCRIPTORS: *Copper, *Nickel, *Iron, Material forming, Mechanical working, *Titanium, *Silicon.

Schüller, H. J.
METALLOGRAPHIC STUDIES OF THE TEMPERATURE RANGE OF INCIPIENT MELTING OF AUSTENITIC CHROME-NICKEL STEELS STABILIZED WITH TITANIUM OR COLUMBIUM. May 63, 6600 words.
Order from HB $16.50 HB-5860

Trans. of Archiv [für das] Eisenhüttenwesen (West Germany) 1963, v. 34, no. 1, p. 61-68.

DESCRIPTORS: *Steel, Austenite, Chromium alloys, Nickel alloys, Stability, *Titanium alloys, *Niobium alloys, Metallography, *Heat treatment, Carbides, Melting.

Schwalbe, Rolf.
PROPOSALS FOR TESTING METAL POWDERS. [1963] 23p. 10 refs.
Order from SLA $2.60 63-16835

Trans. of Stahl und Eisen (West Germany) 1952, v. 72, p. 898-904 [(Verein Deutscher Eisenhüttenleute] (West Germany). [Berichte]-14).

DESCRIPTORS: *Powder metals, *Metallography, Test methods, Quantitative analysis, Grain structure (Metallurgy), Mechanical properties.

A compilation is made of the methods that appear suitable to characterize the properties of metal powders. The following tests are described, in part based on those of the Metal Powder Association: (1) Tests of chemical composition: Determination of oxygen content, metallic constituents and insoluble portion. (2) Tests of the geometric properties of the grains: Determination of grain structure, grain size and size distribution. Estimation of crystal system, by Rosin and Rammler method. Determination of fineness of grain, distribution range and grain size range. (3) Tests of powder metallurgical properties: Determination of the flow properties, powder density and flow coefficient. Determination of pressing characteristics, compactability and compressibility. (Author)

Schwarz, Carl.
MANGANESE EQUILIBRIUM AND PHOSPHORUS EQUILIBRIUM IN OPEN HEARTH FURNACE IN LIGHT OF RECENT TEMPERATURE MEASUREMENTS, II. [1963] [6]p. [refs. footnotes omitted).
Order from SLA $1.10 63-16773

Trans. of Arch[iv] für das Eisenhüttenwesen (Germany) 1933, v. 7, no. 4, p. 223-227.

DESCRIPTORS: Temperature measurement, Open hearth furnaces, *Phosphorus, *Manganese, Chemical equilibrium, Slags, Nomographs.

Schwarz, Carl, Schröder, Ernst, and Leiber, G.
MANGANESE EQUILIBRIUM AND PHOSPHORUS EQUILIBRIUM IN OPEN HEARTH FURNACE IN LIGHT OF RECENT TEMPERATURE MEASUREMENTS, I. [1963] [18]p. 15 refs.
Order from SLA $1.60 63-16772

Trans. of Arch[iv] für das Eisenhüttenwesen (Germany) 1933 [v. 7, no. 3] p. 165-174.

DESCRIPTORS: Temperature, Measurement, Open hearth furnaces, *Phosphorus, *Manganese, Chemical equilibrium, Steel, Slags.

Sevost'yanov, N. D. and Devkin, M. M.
CONSTRUCCION DE TOBERAS PARA CHORRO DE ARENA (Konstruktsiya Peskostruinogo Sopla) (Sandblasting Tuyere Construction). 10p. 11 refs. CID: 62-270.
Order from OTS, ETC or CID $0.80 62-29270

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1957, no. 3, p. 27-29.

DESCRIPTORS: *Sandblasting, Nozzles, Fuel injection.

Skorokhod, V. V. and Fedorchenko, I. M.
ON THE CONDUCTIVITY OF DISPERSED MIXTURES WITH IMPERFECT CONTACTS AMONG THE PARTICLES [Pro Providnist' Dyspersnykh Sumishei z Nedoskonalymy Kontaktamy mizh Chastynkamy]. May 63, 1200 words.
Order from HB $3.90 HB-5774

Trans. of Akademiya Nauk URSR [Kiev]. Dopovidi, 1959, no. 7, p. 756-759.
Another trans. is available from OTS or SLA $1.10 as 62-16734 [1962] [9]p.

DESCRIPTORS: *Particles, Mixtures, Powder metallurgy, Dispersion hardening, *Electrical conductance.

Solyus, N. S.
MEJORA DEL RENDIMIENTO DE LOS HORNOS DE PIRITA (Ob Uvelichenii Proizvoditel'nosti Kolchedannykh Pechei) (Improvement in Pyrites Furnace Yields). 6p. CID: 62-227.
Order from OTS, ETC or CID $0.80 62-29227

Trans. in Spanish of Bumazhnaya Promyshlennost' (USSR) 1955, v. 30, no. 2, p. 24.

DESCRIPTORS: *Pyrites, *Combustion chambers, Effectiveness.

Tikkanen, M. H.
AN OPTICAL METHOD FOR THE CONTINUOUS MEASUREMENT OF SHRINKAGE (OF METAL POWDERS) DURING SINTERING. May 63, 1000 words.
Order from HB $3.80 HB-5920

Trans. of Jernkontoret [Stockholm]. Annaler (Sweden) 1963, v. 147, no. 1, p. 52-56.

DESCRIPTORS: *Sintering, Powders, Metals, *Powder metallurgy, Optical analysis.

Trebelev, A. M.
CRIOLITA: FUNDENTE EFICAZ PARA LA FUNDICION DEL LATON (Kriolit - Effektivnyi Flyus pri Plavke Latuni) (Cryolite as an Effective Fluxing Agent in Brass Casting). 3p. CID: 62-265.
Order from OTS, ETC or CID $0.80 62-29265

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1959, no. 1, p. 48.
Another trans. is available in English from OTS or SLA $1.10 as 60-21206 [1960] 1p.

DESCRIPTORS: *Cryolite, Melting, Brass, *Castings.

Vinogradov, G. A. and Fedorchenko, I. M.
EFFECT OF THE GAS PHASE ON THE COMPACTING OF POWDER DURING ROLLING. Feb 62 [9]p. (figs. tables omitted) 2 refs. [DSIR] NLL M.3775.
Order from OTS or SLA $1.10 63-19783

Trans. of Poroshkovaya Metallurgiya (USSR) 1961, v. 1, no. 1, p. 61-67.
Another trans. is available from HB $5.40 as HB-5580, July 62, 2000 words.
DESCRIPTORS: *Powder metallurgy, Phase studies, Rolling mills, Vaporization, Gases, Vacuum apparatus.

A study was made of the rolling of powders in different gases and in vacuum. It was established that the viscosity of the gases contained in powder particle voids is an important factor, which should be taken into account together with the remaining principal factors determining the thickness and density of green strip rolled from metallic powders (roll diameter, speed and direction of rolling, powder particle size, powder magnetization, etc.). Under certain conditions, the gas-phase factor predominates over the others. Thus, for example, very fine, dust-like powders, which cannot be rolled under ordinary conditions, can be successfully rolled at an air pressure of 1 mm. Hg or less. By supplying hydrogen or carbon dioxide to the hopper of the rolling mill, it is possible to increase substantially the strip thickness and the output of powder-rolling mills. (Author)

Wittig, Franz Eberhardt.
ON THE SYSTEMATOLOGY OF THE HEATS OF MIXING OF THE B-METALS. Rept no. 9 on the Contributions to the Energetics of Metallic Systems. [1963].
Order from FRI FRI Trans-181

Trans. of Zeitschrift für Elektrochemie (West Germany) 1959, v. 63, no. 2, p. 327-341.

DESCRIPTORS: *Metals, *Metallic crystals, *Electrochemistry, Heat transfer, Energy, Mixtures.

Zherebin, B. N., Kazarnovskii, G. E. and others.
OPERATIONS OF BLAST FURNACES USING HIGH TOP PRESSURE AT THE KUZNETSK WORKS. [1963] 24p.
Order from OTS or SLA $2.60 63-16876

Trans. of Stal' (USSR) 1955, v. 15 [no. 12] p. 1063-1073.
Other translations are available from OTS or SLA $1.60 as 61-13107, Jan 59 [12]p. and from SLA as RT-4255.

DESCRIPTORS: *Blast furnaces, Pressure, Operation.

Ferrous Metals

RUNNING TEST WITH COMPLETE CHAIN SPEED GEAR SETS OF GERMAN AND FOREIGN HEAT TREATING STEELS. [1963] 10p.
Order from SLA $1.10 63-16869

Trans. of Archiv für das Eisenhüttenwesen (Germany) 1937, v. 11, no. 1, p. 10-16.

DESCRIPTORS: *Transmission gears, *Steel, *Heat treatment, Friction, Lubrication.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 137. 25 July 63, 81p. JPRS: 20336.
Order from OTS $2.25 63-31373

Trans. of Metallurgicheskaya i Gornorudnaya Promyshlennost' (USSR) 1963, no. 1, p. 3-5; Tekhnika Molodezhi (USSR) 1963 [v. 31, no. 3] p. 16; and 26 selected articles from 1963 issues of 14 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, Industrial plants, Construction, Sintering, Pipes, Steel, Welding, Blast furnaces, Mining engineering, Rolling mills, Ores (Metal sources), Sheets, Slags, Iron alloys, Automation, Drilling machines, Cooling Excavators, Economics, Railroads, Machines, Electric welding, Electric furnaces, Steel.

Contents:
Construction of Karaganda metallurgical plant sintering shop
New automatic mobile pipe-manufacturing unit
Production of large-diameter pipes launched at Chelyabinsk plant, by N. Kartashov and E. Tkachenko
Building of shop for electrically welded large-diameter steel pipes at Novomoskovsk plant
New sintering plant and a powerful blast-furnace are put into operation at Orsk-Khalilovo combine
Difficulties involved in building new mines at Kursk magnetic anomaly
Giant cold-rolling shop start operation at Cherepovets metallurgical plant, by A. Katanikov
Discovery of tremendous ore body in the Lake Talkul' area of the Kazakh SSR
Inadequate sheet production at Serp i Molot plant causes Kalibr plant to fall behind schedule, by G. Suvorov
Delays in introducing new synthetic slag method at Zlatoust and Chelyabinsk metallurgical plants
Construction of giant rolling mill at Kommunarsk metallurgical plant
New shop for cold-rolled strip built at Magnitogorsk calibration plant
Giant ferroalloy plant in Nikopol' and Chkalovsk beneficiation combine are under construction

New automatic pipe rolling and welding mill at Chelyabinsk pipe-rolling plant, by Yu. Mednikov and V. Anikeev
Fully automated gas-pipe rolling mill at Chelyabinsk plant marks great progress, by B. Paton
Lack of modern drilling equipment halts work at Rudnii mine, by V. Lopaev and others
Rapid construction of largest Soviet shop for cold-rolling steel sheet
Blast furnace cooled by vapor at Kuznetsk metallurgical combine, by A. Sirovatkin
New giant tunnel excavator for subway construction in Moscow, by S. Akzhigitov
Waste of expensive equipment at the construction site of the West Siberian metallurgical plant
Completion of railroad line between Kachkanar beneficiation combine and ore base
First twenty-roll transformer sheet mill at Novolipetsk plant
Largest electrical pipe-welding unit under construction at Elektrostal' heavy machinery plant, by V. Kirsht
Giant cold-rolling shop commences operations at Cherepovets metallurgical plant, by N. Privalov
Achievements at Magnitogorsk metallurgical combine and proposal to set up exemplary automation and mechanization system, by F. Voronov and G. Andronov
Giant rolling mill commences operation at Chelyabinsk electric pipe-welding shop, by S. Bun'kov
Electric arc furnaces designed by new Novosibirsk bureau
Ukrainian steel and iron ore production in 1962/63 and future plans.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 138. 1 Aug 63, 70p. JPRS: 20460.
Order from OTS $2.00 63-31435

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 4, p. 3-8 and 24 selected articles from 1953 issues of 11 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, Mining engineering, Steel, Welding, Pipes, Rolling mills, Industrial plants, Economics, Coke, Construction, Ultrasonics, Furnaces, Blast furnaces, Casting, Wire, Personnel, Automation, Machines, Pellets, Electric welding, Heat treatment, Quality control.

Contents:
Problems of the Dzhezkazgan mining and metallurgical combine, by M. Samarin
Vacuum refining of steel outside the furnace, by F. G. Kostenko
Continuous furnace welding of steel pipes
Chelyabinsk doubles pipe production
New cold-rolling shop at Novo-Lipetsk
Large pipe mill starts operation at Zhdanov, by I. Drozdov
Defective production and its consequences on the economy
Achievements of the Dneprodzerzhinsk coke-chemical plant, by A. Bublikov
Construction of the West Siberian metallurgical plant, by V. Gorodetskii
Ultrasonics in metallurgy, by E. Zhuravskaya and V. Sogalova
New furnace for the Izhorskii plant
Nizhnii Tagil rebuilds blast furnace
The continuous steel casting controversy, by A. Averin
New wire-drawing mill at Makeevka
Red tape at plant imeni Ordzhonikidze punished
Gigantic blooming mill started at Chelyabinsk
A new precision casting shop at Vil'nyus
Automated production at Donetsk
Zhdanov plant installs three pipe-welding machines
Chelyabinsk pipe-rolling plant to produce large diameter pipe
Pelletizing mill at Krivoi Rog
Khartsyzsk produces large diameter pipe
Novo-Moskovsk metallurgical plant produces large diameter pipe
CC CP of the Ukraine congratulates workers for progress in construction of electric pipe welding shop
Problems of ferrous metallurgy in the Soviet Union.

Baare, R. D. and others.
WAYS OF MINIMIZING OXIDE INCLUSIONS IN LOW-CARBON RIMMING STEELS DURING POURING AND SOLIDIFICATION, PT. II. May 63, 4900 words.
Order from HB $11.50 HB-5892

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 22, p. 1508-1511.

DESCRIPTORS: *Steel, *Castings, *Oxides, Production.

Bardenheuer, Peter and Ostermann, Heinrich.
ON THE EFFECT OF ALKALIS ON IRON BATHS. [1963] 51p. 39 refs.
Order from SLA $5.60 63-14386

Trans. of Kaiser-Wilhelm-Institut für Eisenforschung, [Dusseldorf]. Mitteilungen (Germany) 1927, v. 9, p. 129-149.

DESCRIPTORS: Fused materials, *Iron, *Steel, Sulfur, *Desulfurization, Hydroxides, Alkali metals, Metallurgy, Slags.

Bastien, Paul.
PRACTICAL USES OF ULTRASONIC INSPECTION IN FRANCE. May 63, 5900 words.
Order from HB $14.75 HB-5688

Trans. of Revue Universelle des Mines (France) 1962, v. 105, ser. 9, v. 18, no. 6, p. 451-461.

DESCRIPTORS: *Steel, France, *Ultrasonic radiation, Non-destructive testing.

Bastien, P. and Portevin, P. A.
THE INFLUENCE OF ALPHA-PRODUCING TRACE ELEMENTS (ALUMINIUM, TIN) ON THE FORGEABILITY OF SEMI-HARD CARBON STEEL. July 63.
Order from BISI £4 10s BISI-3254

Trans. of Revue de Métallurgie (France) 1962, v. 59 [no. 9] p. 751-756.

DESCRIPTORS: *Steel, Carbon, Forging, *Tin, *Aluminum, Tracer studies.

Berve, J. and Gravenhorst, H.
CHANGES IN OXYGEN AND NITROGEN CONTENTS WHEN POURING STEEL IN AIR, IN A CONTROLLED ATMOSPHERE, OR IN VACUUM, PT. II. May 63, 3400 words.
Order from HB $8.50 HB-5861

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 15, p. 1041-1044.

DESCRIPTORS: Vacuum apparatus, Electric furnaces, *Steel, *Oxygen, Carbon, *Nitrogen, Air, Metallurgical analysis, *Controlled atmosphere, *Castings.

(See also HB-5671)

Blazejak-Ditges, D.
CONSIDERATIONS REGARDING THE DETERMINATION OF THE NITROGEN CONTENT OF STEEL BY WET METHODS. July 63.
Order from BISI £4 BISI-3278

Trans. of Radex Rundschau (Austria) 1963, no. 1, p. 335-350.

DESCRIPTORS: *Steel, *Nitrogen, Chemical analysis.

Bogdandy, L. von, Dickens, P. and others.
METHOD FOR TESTING THE REDUCTION OF IRON ORE. Aug 63.
Order from BISI £6 5s BISI-3033

Trans. of mono. Journées Internationales de Sidérurgie, Luxembourg, 1-4 Oct 62. Proceedings, p. 142-156.

DESCRIPTORS: *Ores (Metal sources), *Iron, Reduction, Test methods.

Bohnenkamp, K. and Engell, H.-J.
COURSE OF OXIDATION OF IRON AND CARBON IN THE SCALING OF IRON-CARBON ALLOYS. Jan 63.
Order from BISI £6 5s BISI-3065

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1962, v. 33 [no. 6] p. 359-367.

DESCRIPTORS: *Carbon alloys, *Iron alloys, *Chipping hammers, Oxidation, Scale, Steel.

Dauvergne, J., Pelabon, M., and Ivernel, J.
FORGEABILITY OF STEEL ASSESSED BY THE HOT TENSILE TEST. May 63, 3900 words.
Order from HB $9.35 HB-3565

Trans. of Revue de Métallurgie (France) 1955, v. 52, no. 2, p. 85-93.

DESCRIPTORS: *Steel, Tensile properties, Forging.

Diepschlag, Ernst.
THE ANLYTICAL DETERMINATION OF IRON NEXT TO ITS OXIDES (Die Analytische Bestimmung des Eisens neben seinen Oxyden). [1963] 10p. 4 refs.
Order from SLA $1.10 63-16737

Trans. of Stahl u[nd] Eisen (Germany) 1923, v. 43, no. 33, p. 1073-1075.

DESCRIPTORS: Iron, *Iron compounds, *Oxides, Slags, *Steel, Impurities, Volumetric analysis.

Ebeling, F. and Schulz, H. J.
EFFECT OF THE SULFUR CONTENT OF PIG IRON UPON THE PRODUCTION OF HIGH-QUALITY STEEL. May 63, 3200 words.
Order from HB $6.80 HB-5830

Trans. of Neue Hütte (East Germany) 1962, v. 7, no. 11, p. 695-698.

DESCRIPTORS: *Iron alloys, *Castings, Sulfur, Production, Quality control. *Steel.

Förster, J.
EXPERIENCES WITH TRANSISTORS IN STEEL MILLS. May 63, 6200 words.
Order from HB $14.80 HB-5648

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 11, p. 692-696.

DESCRIPTORS: *Steel industry, *Transistors, *Iron industry, *Control systems.

Helmer, Govert.
SURFACE DEFECTS ON INGOTS AND BILLETS. [1963] 61p. 23 refs.
Order from SLA $6.60 63-16852

Trans. of Jernkontoret [Stockholm]. Annaler (Sweden) 1944, v. 128, no. 9, p. 457-520.

DESCRIPTORS: *Steel, Porosity, *Castings, Surfaces, Fracture (Mechanics), Molding, Molding materials, Hot working, Friction.

Ipat'ev, V. V. and Tikhomirov, V. I.
RATE OF OXIDATION OF IRON IN AIR AND IN OXYGEN AT HIGH TEMPERATURES. July 63.
Order from BISI £5 5s BISI-3197

Trans. of Leningrad U. Uchenye Zapiski (USSR) 1954, no. 175, p. 7-20.

DESCRIPTORS: High temperature research, Oxygen, Air, *Iron, Oxidation, Reaction kinetics.

Itskovitch, G. M., Sautkin, N. I., and Larin, A. V.
THE SOLIDIFICATION RATE AND DEPTH OF THE LIQUID PHASE IN A CONTINUOUSLY CAST, LOW-CARBON, RIMMING STEEL BILLET. July 63.
Order from BISI £3 BISI-3323

Trans. of #Metallurg (USSR) 1963 [v. 8] no. 5, p. 10-12.

DESCRIPTORS: *Steel, Rolling mills, Liquid metals, Phase studies, *Casting, Carbon.

Kegel, K.
METHOD FOR HARDENABILITY TESTS ON STEELS TO BE HARDENED INDUCTIVELY. Aug 63.
Order from BISI £3 BISI-3230

Trans. of Harterei-Technische Mitteilungen (West Germany) 1960, v. 15, no. 2, pt. B, p. 96-101.

DESCRIPTORS: *Steel, Hardening, Chemical, Heating, Time, *Hardenability, Tests.

Kraut, H.
INVESTIGATION OF THE PERFORMANCE OF OILS AND OIL EMULSIONS IN THE COLD ROLLING OF STRIP STEEL. May 63, 4400 words.
Order from HB $12.40 HB-5883

Trans. of Neue Hütte (East Germany) 1962, v. 7, no. 12, p. 729-736.

DESCRIPTORS: *Steel, Rolling mills, Cold working, Colloids, Oils, *Lubricants.

Kroneis, M., Ebner, K., and Kubisch, C.
DEVELOPMENT OF AN ECONOMICAL SHORT-TIME SPHEROIDIZING TREATMENT (FOR STEEL) IN ROLLER-HEARTH CONTINUOUS FURNACES. May 63, 5900 words.
Order from HB $14.75 HB-5889

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 26, p. 1865-1873.

DESCRIPTORS: *Steel, Annealing, *Furnaces, Design, Economics.

Lang, K.
DIRECT ENAMELING ON DECARBURISED STEEL SHEET. July 63.
Order from BISI £5 10s BISI-3244

Trans. of Verein Deutscher Emailfachleute e. V. Mitteilungen (West Germany) 1962, v. 10, Sep, p. 101-108.

DESCRIPTORS: Sheets, *Steel, *Ceramic coatings, Manufacturing methods.

Löfberg, A. and Uhlman, D.
DEPHOSPHORIZATION (OF STEEL) IN THE KALDO PROCESS. May 63, 600 words.
Order from HB $2.80 HB-5953

Trans. of Jernkontoret [Stockholm]. Annaler (Sweden) 1963, v. 147, no. 3, p. 347-348.

DESCRIPTORS: *Steel, *Phosphorus, Disposal, Statistical analysis.

Paar, O., Moreau, J., and Manenc, J.
SOME OBSERVATIONS CONCERNING THE INFLUENCE OF OXIDATION ON CREEP IN A MILD STEEL (ARMCO IRON). Aug 63.
Order from BISI £6 10s BISI-3311

Trans. of Rev[ue de] Mét[allurgie]. Mém[oires] Sci[entifiques] (France) 1962 [v. 59, no. 10] p. 629-642.

DESCRIPTORS: *Steel, Creep, Oxidation.

Roi, A. A. and Tumash, V. P.
ELECTRO-PULSE PIERCING OF DEEP HOLES IN HEAT-RESISTANT 18-9 Ti STAINLESS STEEL. May 63, 200 words.
Order from HB $2.00 HB-5907

Trans. of #Stanki i Instrument (USSR) 1963 [v. 34] no. 3, p. 32.

DESCRIPTORS: *Stainless steel, *Titanium alloys, Heat resistant metals and alloys.

Russiyan, A. V. and Shorshorov, M.
EFFECT OF BORON ON WELD HOT CRACKING OF NICKEL-CHROME-TUNGSTEN AUSTENITIC STEELS. May 63, 2800 words.
Order from HB $7.80 HB-4812

Trans. of Svarochnoe Proizvodstvo (USSR) 1958, no. 10, p. 14-18.

DESCRIPTORS: *Steel, Austenite, Tungsten alloys, *Chromium alloys, *Nickel alloys, *Fracture (Mechanics), Welds, *Boron.

Silaev, A.
BALANCE DE LA SESION CIENTIFICO-TECNICA PARA MEJORAR LA CALIDAD DEL ACERO COLADO (Itogi Nauchno-Tekhnicheskoi Sessii po Uluchsheniyu Kachestva Stal'nykh Otlivok) (Balance of the Scientific--Technical Session Held on the Quality of Wrought Steel). 11p. CID: 62-269.
Order from OTS, ETC or CID $0.80 62-29269

Trans. in Spanish of Liteinoe Proizvodstvo (USSR) 1955, no. 10, p. 31-32.

DESCRIPTORS: *Steel, Iron.

Silber, F. A.
DEVELOPMENT OF AN AUTOMATIC ULTRASONIC INSPECTION UNIT FOR ROUGHED-DOWN (STEEL) SLABS. May 63, 3800 words.
Order from HB $8.50 HB-5894

Trans. of Berg- und Hüttenmännische Monatshefte (Austria) 1963, v. 108, no. 1, p. 8-14.

DESCRIPTORS: *Steel, Ultrasonic radiation, Non-destructive testing.

Skachko, V. A. and Merenkov, N. P.
NEW METHOD FOR DEOXIDATION AND DESULPHURIZATION OF STEEL AND IMPROVING ITS QUALITY. [1963] 6p. 8 refs.
Order from OTS or SLA $1.10 63-16875

Trans. of Stal' (USSR) 1957, v. 17, p. 521-522. Another trans. is available from SLA as R-4047, AEC-tr-3176 [10]p.

DESCRIPTORS: Quality control, *Steel, Desulfurization, Deoxidation.

Speith, K. G. and Steinhauer, O.
METHOD OF FLUSHING HOT METAL AND STEEL IN THE LADLE. May 63, 4600 words.
Order from HB $11.50 HB-5863

Trans. of Stahl und Eisen (West Germany) 1963, v. 83, no. 2, p. 75-80.

DESCRIPTORS: *Steel, Metals, Heat, Liquid metals, Iron alloys, Castings, Gas flow.

Strelets, V. M., Pitak, N. V. and others.
PERFORMANCE OF ZIRCONIA NOZZLES IN THE CONTINUOUS CASTING OF STEEL. May 63, 800 words.
Order from HB $2.80 HB-5963

Trans. of Ogneupory (USSR) 1963, v. 28, no. 4, p. 163-165.

DESCRIPTORS: *Steel, *Castings, *Nozzles, Dioxides, *Zirconium compounds.

Yakhnina, V. D.
NITRIDING OF MAGNESIUM CAST IRON. [1963]. BGIRA/Tr/63/10; no. 543.
Order from BGIRA BGIRA-543

Trans. of Liteinoe Proizvodstvo (USSR) 1955, no. 4, p. 23-25.

DESCRIPTORS: *Iron alloys, *Castings, *Magnesium alloys, Nitrogen, *Nitrides.

Nonferrous (except light) Metals

PROCESS OF OBTAINING ALKALI METALS FROM THEIR SULFIDES. [1963] 4p.
Order from OTS or SLA $1.10 63-16161

Trans. of French patent 660 529, gr. 14, cl. 1, assigned to I. G. Farbenindustrie A. G., Germany, appl. filed 17 Sep 28, granted 19 Feb 29, issued 12 July 29 (three priorities: Germany divisional applications. 20 Sep 27 of 2 main patents and 13 Oct 27 of additional patent).

DESCRIPTORSL *Alkali metals, *Sulfides, *Sodium compounds, Iron, Oxides, Separation, Heat treatment.

Hayek, Erich.
EXTRACTION OF MANGANESE ORE WITH CHLORINE GAS. [1963] 6p.
Order from SLA $1.10 63-16744

Trans. of Berg- und Hüttenmännische Monatshefte (Austria) 1948, v. 93, no. 6, p. 87-88.

DESCRIPTORS: *Ores (Metal sources), *Manganese, Manganese compounds, Chlorine, Gases, Chlorides, Chlorination, *Metallurgy, Separation.

Netto, Curt.
APPARATUS FOR THE MANUFACTURE OF ALKALI METALS FROM CAUSTIC ALKALIES IN A CONTINUOUS OPERATION. [1963] [6]p. (drawings omitted).
Order from OTS or SLA $1.10 63-16154

Trans. of German patent 45 105, cl. 75: soda, potash and alkalies, appl. filed 4 Nov 1887, issued 12 Nov 1888.

DESCRIPTORS: *Alkali metals, *Sodium, *Hydroxides Reduction (Chemistry), Production.

Thompson, Jacob Baynes and White, William.
PROCEDURE AND APPARATUS FOR THE PREPARATION OF SODIUM AND POTASSIUM [1963] 3p. (drawings omitted)
Order from OTS or SLA $1.10 63-16155

Trans. of German patent 43 235, cl. 75: soda, potash and alkalies, appl. filed 25 July 1887, issued 11 May 1888.

DESCRIPTORS: *Sodium, *Potassium, Carbonates, Hydrates, Hydroxides, Fused materials.

Structural Metallurgy and Corrosion

COBALT BASE METAL ALLOY HIGHLY RESISTANT TO OXIDATION AND CORROSION. 25 June 63, 20p. 9156/61 Japan.
Order from INT $58.50

Trans. of Japanese patent 9156/61 by Sierra Metal Corp., USA, filed 25 July 59.

DESCRIPTORS: *Cobalt alloys, *Corrosion resistant alloys, Oxidation.

Huppertz, P. H.
CORROSION AND PRECIPITATION PROCESSES IN HEAT-RESISTING AUSTENITIC CHROME-NICKEL STEELS FOR THE PETROCHEMICAL AND OIL-REFINING INDUSTRIES. Dec 62, 4300 words.
Order from HB $9.80 HB-5738

Trans. of Industrie Anzeiger (West Germany) 1961 [v. 83] no. 101, p. 29-33.

DESCRIPTORS: *Steel, *Austenite, *Carbides, *Precipitation, Nickel, Chromium, *Corrosion, *Petroleum industry, *Oils, Refineries, *Heat resistant metals and alloys, Chemical industry, *Corrosion inhibition.

Kudielka, H. and Möller, H.
SENSITIVE ANALYSIS OF STRUCTURAL CONSTITUENTS IN METAL MICROSECTIONS BY X-RAY DIFFRACTION. July 63.
Order from BISI £3 5s BISI-3262

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1963 [v. 34, no. 3] p. 181-185.

DESCRIPTORS: *X-ray diffraction analysis, Metals, Microstructure, Steel, Austenite, Chromium alloys, Nickel alloys, Pearlite.

Maruyama, Masuteru.
TREATMENT OF MOLTEN IRON BY ELECTROLYZING IT WITH MOLTEN SLAG. REPT. 3. INOCULATION OF THE TREATED IRON. [1963] [27]p. (foreign text included) 17 refs.
Available from SLA on loan 63-18623

Trans. of Imono (Japan) 1958, v. 30, no. 1, p. 37-45.

DESCRIPTORS: *Iron, *Slags, Melting, Electrolytes, Electrochemistry, Graphite, Iron alloys, Castings, Electrolysis, Eutectics, Cooling, Microstructure, Calcium, Desulfurization.

Kish graphite spherodized in high carbon cast iron which was treated by electrolyzing molten slag, but eutectic graphite incompletely coagulated and precipitated in kish graphite, so that the treated iron had the mixed structure of eutectic fine graphite and pseudo flaky graphite. As it seems to be based on the lack of nucleus, which comes from extremely killing, the treated molten iron was inoculated with Ca-Si and Fe-Si. Perfect nodular graphite structure was obtained with inoculation of 1 ~ 2% Ca-Si. The effect of its inoculation was more available with the increase of Si content in molten iron. Inoculation of Fe-Si was not good, for it accelerated the growth of fine graphite and nodular graphite to the flaky form. Further, owing to the relation between cooling rate and structure, the generation and growth process of nodular graphite and inoculation were discussed. (Author)

Menasee, S. and Hache, A.
ELIMINATION OF CORROSION PRODUCTS: PICKLING STEEL IN HYDROCHLORIC ACID MEDIUM. July 63.
Order from BISI £3 15s BISI-2961

Trans. of Revue de Métallurgie (France) 1962, v. 59 [no. 3] p. 249-254.

DESCRIPTORS: *Hydrochloric acid, *Steel, *Pickling, *Corrosion, *Corrosion inhibition.

Moskvin, N. I.
INVESTIGATION OF METALLIC MATERIALS STABLE IN MOLTEN ZINC-BASE TYPOGRAPHIC ALLOYS (Izyskanie Metallicheskikh Materialov, Stoikikh v Rasplavlennykh Tipografskikh Tsinkovykh Splavakh). Jan 62 [20]p. 9 refs. RTS 2013.
Order from OTS or SLA $1.60 62-15392

Trans. of Vsesoyuz[nyi] Nauch[no]-Issledovatel['skii] i Konstrukt[orskii] Inst[itut] Khim[icheskogo] Mashinostr[oeniya]. Trudy (USSR) 1960, v. 34, p. 12-25.

DESCRIPTORS: *Zinc alloys, *Casting alloys, *Corrosion resistant alloys, Liquid metals, Materials, Stability, Chromium alloys, Tungsten alloys.

The problems of the corrosion resistance of metallic materials in molten zinc-base typographic alloys is investigated. Data are reported on the resistance of industrial steels and cast chromium alloys. (Author)

Nachtigall, E.
INTERGRANULAR CORROSION OF ALUMINUM RAW MATERIALS. [1963] [46]p. 23 refs. AERDL T-1676; AD-299 562.
Order from OTS or SLA $4.60 63-19123

Trans. of Radex-Rundschau (Austria) 1960, no. 6, p. 373-388.

DESCRIPTORS: *Aluminum, Materials, *Corrosion, *Grain structures (Metallurgy).

Urazov, G. G. and Mirgalovskaya, M. S.
Al-Cu-Mg SYSTEM, tr. by J. J. Cornish. Nov 60 [9]p. 8 refs. NP-tr-539; [DSIR NLL] M.3034.
Order from OTS or SLA $1.10 63-23307

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 83, no. 2, p. 247-250.

DESCRIPTORS: *Magnesium alloys, *Copper alloys, *Aluminum alloys, Phase studies, Microstructure.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

Afanasev, V. P.
RADIOAKTIVITÄT DER AEROSOLE IM SYNCHROZYKLOTRONGEBÄUDE DES VEREINIGTEN KERNFORSCHUNGSINSTITUTS (OIJI) (Radioactivity of the Aerosols in the Synchronous-Cyclotron Building of the United Nuclear Research Institute). 3p.
Order from TIB $0.95

Trans. in German of #Atomnaya Energiya (USSR) 1959, v. 7, no. 1, p. 74-75.

DESCRIPTORS: *Radioactivity, *Aerosols, Synchrocyclotrons.

Alekseev, A. G., Gasev, M. A. and others.
ZYKLOTRON MIT 120 cm MAGNETPOLDURCHMESSER (A 1.20 Meter Air-Gap Cyclotron) 21p.
Order from TIB $3.20

Trans. in German of #Atomnaya Energiya (USSR) 1959, v. 7, no. 2, p. 148-159.

DESCRIPTORS: *Cyclotrons.

Broder, D. L., Kutuzov, A. A. and others.
DER DURCHGANG SCHNELLER NEUTRONEN DURCH BLEI UND EISEN (Passage of Fast Neutrons through Lead and Iron).
Order from TIB $2.60

Trans. in German of #Atomnaya Energiya (USSR) 1959, v. 7, no. 4, p. 313-320.

DESCRIPTORS: *Neutrons, *Lead, *Iron, Transport properties.

Bulatov, B. P. and Leipunskii, O. I.
ALBEDO DER GAMMASTRAHLEN UND AUFBAU-FAKTOR BEI REFLEXION (Albedo of Gamma-Rays and Structure Factor at Reflection).
Order from TIB $1.30

Trans. in German of #Atomnaya Energiya (USSR) 1959, v. 7, no. 6, p. 551-553.

DESCRIPTORS: *Albedo, *Gamma rays.

Dzyub, I. P., Lubchenko, A. F., and Tsin, Yun-wen.
RESONANCE SCATTERING OF GAMMA-QUANTA BY IMPURITY NUCLEI LOCATED IN A SOLID. [1963]
15p. 7 refs.
Order from OTS or SLA $1.60 AEC-tr-5658

Trans. of Ukrayins'kyi Fizychnyi Zhurnal (USSR) 1962, v. 7, no. 5, p. 457-468.

DESCRIPTORS: Solids, Impurities, *Nickel, Nuclei, *Gamma-ray scattering, Excitation, Oscillation, Gamma-ray spectra, Absorption spectrum, *Resonance scattering, *Mossbauer effect, *Phonons, Quantum statistics.

The spectra for the excitation and scattering of gamma-quanta by impurity nuclei located in a solid were calculated, taking into consideration the changes in the frequencies of the normal oscillations and the equilibrium positions for gamma transitions, for both high and low heat liberation. (Author)

Gershtein, S. S.
TRANSITION OF NEGATIVE MESONS FROM HYDROGEN TO THE NUCLEI OF OTHER ELEMENTS, tr. by Lydia Venters. Nov 62 [27]p. 21 refs.
Order from OTS or SLA $2.60 AEC-tr-5521

Trans. of mono. Perekhody Otritsatel'nykh Mezonov ot Vodoroda k Yadram Drugikh Elementov, Dubna, 1962.

DESCRIPTORS: *Muons, *Pions, *Meson cross sections, *Hydrogen, *Carbon, *Oxygen, *Helium, Meson capture, Quantium statistics.

It is pointed out that the large value of the cross section of charge exchange of mesonic hydrogen atoms in nuclei with $Z > 1$ is associated with the presence of a large number of intersections of molecular terms related to charge exchange. The transition cross section of μ-meson from the orbit of mesonic hydrogen atom to carbon and oxygen nuclei is calculated. This calculation is of interest for the case of gaseous hydrogen (diffusion chambers) in which the transition of μ-mesonic hydrogen atoms to the normal state takes place faster, than the charge exchange process to the nuclei of the impurity. The problem of cascade transitions to the normal state of mesonic C_μ and O_μ atoms produced as a result of interception of μ-mesons from hydrogen is discussed. It is outlined that the smallness of the value of interception cross section of μ-mesons from hydrogen to He nuclei observed experimentally is associated with the absence of cross sections of terms related to charge exchange, and an approximate evaluation of the transition cross section is made. The problems associated with the behavior of π-mesons in condensed media which contain hydrogen, are also discussed. (Author)

Komar, E. G.
ZYKLOTRON MIT RADIAL FORTSCHREITENDEM MAGNETFELD (A Cyclotron with a Radially Traveling Magnetic Field). 12p.
Order from TIB $2.10

Trans. in German of #Atomnaya Energiya (USSR) 1959, v. 7, no. 1, p. 57-63.

DESCRIPTORS: *Cyclotrons, *Magnetic fields.

Mikhalyak, S.
INVESTIGATION OF TRANSITION RADIATION. [1963]
12p. 2 refs.
Order from OTS or SLA $1.60 AEC-tr-5234

Trans. of unidentified mono. (dissertation) Moscow, 1961.

DESCRIPTORS: *Charged particles, *Electrons, *Luminescence, Intensity, Distribution, Electron bombardment, Particle accelerator targets, Photomultipliers.

Transition radiation, postulated theoretically, was confirmed experimentally. The experiments were in good agreement with the Franck-Ginsberg theory, with respect to the properties and characteristics of transition radiation, in the electron energy region of 6 - 60 kev. Transition radiation, produced by electrons at the surface of a metallic target, placed in a vacuum, is accompained by side effects; the latter make a definite, although slight, contribution to the total intensity of the measured radiation. Measurements of the radiation spectra would be improved if the role of the latter were known more exactly. Future prospects for investigations of transition radiation are indicated in the dissertation. (Author)

Saakyan, G. S.
EQUATIONS FOR THE SUPER DENSITY STATES. I. ASYMPTOTIC EQUATION OF STATE, tr. by Sergei Shewchuck. Jan 63 [10]p. 7 refs.
Order from OTS or SLA $1.10 UCRL Trans-911 (L)

Trans. of Akademiya Nauk Armyanskoi SSR, Erevan. Izvestiya. Seriya Fiziko-Matematicheskikh Nauk, 1961, v. 14, no. 6, p. 117-123.

DESCRIPTORS: *Equations of state, Density, Nucleons, Hyperons, Astrophysics.

Sabau, M. and Zamfirescu, I.
DETERMINATION OF THE NEUTRON FLUX ENERGY DISTRIBUTION IN ACTIVATION AND TRANSMISSION EXPERIMENTS. [1962] 5p.
Order from ATS $9.40 ATS-74N55RU

Trans. of Acad[emia] Rep[ublicii] Populare Romine. Inst[itutul de] Fiz[ica]. Studii [si] Cercetari [de] Fiz[ica] (Rumania) 1960, v. 11, no. 2, p. 351-356.

DESCRIPTORS: *Neutron flux, Buckling (Neutron density), Neutron age, Neutron activation, Nuclear energy, Propagation, Energy.

Sena, L. A.
ION-ATOM INTERACTION IN GAS. [1963] 18p. 16 refs.
Order from OTS or SLA $1.60 AEC-tr-5615

Trans. of Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (USSR) 1939, v. 9, no. 11, p. 1320-1331.

DESCRIPTORS: *Atoms, *Ions, Gases, *Nuclear scattering, *Nuclear cross sections, *Ion beams, Velocity, Geometric forms, Quantum mechanics.

Measurements are given of the effective scattering and overcharge cross-sections of ions and of their dependence on the properties of the gas, the velocity of ions, and the geometry of the apparatus. The results are compared with the data of Rostagni, Wolf, and other authors. (Author)

Sivintsev, Yu. V.
MAXIMAL ZULÄSSIGE KONZENTRATIONEN RADIOAKTIVER ISOTOPE VON SPALTPRODUKT-EDELGASEN (Maximum Permissible Concentrations of Radioactive Isotopes of Fission-Product Rare Gases).
Order from TIB $1.10

Trans. in German of #Atomnaya Energiya (USSR) 1961, v. 10, no. 6, p. 631-632.
Another trans is available in English from OTS or SLA $12.00 in 62-13576, FTD-TT-61-30, 6 Oct 61[161]p.

DESCRIPTORS: *Radioactive isotopes, Fission products, Helium group gases.

Trunov, V. K. and Kovba, L. M., and Spitsyn, V. I.
OXYDES BINAIRES DANS LE SYSTÈME URANIUM-TUNGSTÈNE-OXYGÈNE [Double Oxides in the Uranium-Tungsten-Oxygen System] tr. by B. de Trezvinsky. 29 Sep 62 [7]p. 4 refs. CEA Trans. no. R 1665.
Order from OTS or SLA $1.10 63-15485

Trans. in French of Akad[emiya] Nauk SSSR. Dokl[ady] 1961, v. 141, no. 1, p. 114-116.

DESCRIPTORS: *Uranium compounds, *Tungsten compounds, Oxides, Oxygen.

RADIOCHEMISTRY, 1961, VOL. 3, NOS. 1-2. 1963, 266p. PL-480 AEC.
Order from OTS $2.75 AEC-tr-4579

Trans. of Radiokhimiya (USSR) 1961, v. 3, nos. 1-2, p. 3-240.
##Other translations are available separately in French or in English.

DESCRIPTORS: *Radiochemistry, Radioactive isotopes, *Silver, *Geologic age determination, *Americium, *Ammonium compounds, Fluorides, *Ion exchange resins, *Argon, *Sequestering agents, *Barium, *Beta decay, *Calcium, *Carbon, *Cobalt, *Cadmium, *Cyclohexanone, *Fission products, *Hydrochloric acid, *Lead, *Phosphonic acids, Methyl radicals, *Minerals, *Neptunium, *Nitric acid, *Phosphorus, *Protactinium, *Plutonium, *Radium, *Ruthenium, *Scintillation counters, Sorption, *Strontium, *Sulfuric acid, *Tellurium, *Thorium, *Uranium, *Uranyl radicals, Nitrates, Sulfates, *Yttrium compounds, *Oxalates, *Zirconium.

Contents:
Extraction of thorium with octylamine from sulfuric acid solutions, by V. M. Vdovenko and others
##Extraction of sulfuric acid and uranyl sulfate by tributyl phosphate, by V. B. Shevchenko and Yu. F. Zhdanov
The salting-out effect of cations and the covalent nature of their reaction with the water molecules in solution, by A. A. Kuznetsova and others
Relationship between the effectiveness of the salting-out agent and the hydration of the salted-out ion, by O. Ya. Samoilov and others
Structural study of uranyl nitrate trihydrate and dihydrate crystals, by V. M. Vdovenko and others
Investigation of the state of protactinium in aqueous solutions by the extraction method, by L. D. Sheidina and L. I. Il'menkova
Effect of ionizing radiation on the valence of neptunium in aqueous solutions, by A. D. Gel'man and others
State of microamounts of radioelements in solutions. XV. Sorption of polonium on ion exchangers, by I. E. Starik and N. I. Ampelogova
State of microamounts of radioelements in dilute solutions. XVI. Investigation of the state of americium by the ion-exchange method, by I. E. Starik and F. L. Ginzburg
Investigation of yttrium complex formation. IV. Oxalate complexes, by M. G. Panova and others
Preparation of plutonium targets for irradiation in cyclotrons with multicharged ions, by K. A. Gavrilov and others
Isolation of RdTh from radium-mesothorium preparations, by D. M. Ziv and E. A. Volkova
Concentration of $MsTh_2$ (Ac^{228}) by E. A. Volkova and D. M. Ziv
A sensitive photometric determination of thorium with arsenazo III, by V. I. Kuznetsov and S. B. Savvin
Coprecipitation of microamounts of Sr^{90} with active manganese dioxide in the presence of macroamounts of barium and calcium, by Yu. V. Egorov and others
Separation of the nuclear isomers of tellurium, by A. N. Murin and others
The yield of argon isotopes in the irradiation of targets with 660 MeV protons, by E. K. Gerling and L. K. Levskii
##Scintillation counting of natural radiocarbon and its application to determination of absolute age, by I. E. Starik and others

Separation of iron and cobalt on the anion exchanger ASD-2, by E. A. Bozhek and others

Isolation of carrier-free Cd^{109} from cyclotron targets, by S. A. Grachev and others

##Extraction of ruthenium and some other fission products by tri-n-octylamine from nitric acid solutions, by V. B. Shevchenko and V. S. Shmidt

Extraction of uranium (VI) and (IV) from hydrochloric acid solutions by the diisoamyl ester of methylphosphonic acid, by V. B. Shevchenko and others

The effect of salting-out agents on the extraction of uranyl nitrate by cyclohexanone, by S. Mints and A. Ugnevskaya

The sorption of radioelements from solutions. I. The sorption of Ag^{110} p32 and Zr^{95} on a fluorinated glass surface, by I. E. Starik and N. G. Rozovskaya

Investigation of the state of protactinium in aqueous solutions. IV. The ion-exchange method, by I. E. Starik and others

##A study of the state of Pu(IV) in dilute solutions of nitric acid, by V. I. Grebenshchikova and Yu. P. Davydov

##Adsorption of Pu(IV) on the surface of glass, by V. I. Grebenshchikova and Yu. P. Davydov

Vapor pressure over ether solutions of uranyl nitrate, by V. M. Vdovenko and others

A rapid method for the extractive-photometric determination of uranium with the reagent arsenazo III, by P. N. Palei and others

The process of solution of U_3O_8 in sulfuric acid. I. The kinetics of some reactions involving powders, by V. M. Solntsev and Yu. M. Tolmachev

##Reaction of plutonium dioxide with ammonium hydrogen fluoride in the absence of water, by Ya. Maly and others

##Sorption of long-lived fission products on soils and clay minerals. I, by Yu. A. Kokotov and others

On the state of the atoms of radioactive elements in minerals, by I. E. Starik and others

On the use of the volumetric method for the quantitative determination of radiogenic argon in minerals, by O. Ya. Gel'man

##Chemical changes during the β-decay of RaD in radical-deficient lead derivatives, by V. D. Nefedov and others

##On multiple-labeled compounds, by V. D. Nefedov and G. A. Skorobogatov

Determination of the effective age of fission fragments, by K. K. Aglintsev

The analytical chemistry of thorium. III. Photometric determination of thorium with arsenazo III in materials ocurring in nature, by V. F. Luk'yanov and others

Subject and author indexes.

Instruments

Bayukov, Yu. D., Zaitsev, Yu. M. and others.
AN EIGHT-CHANNEL HODOSCOPIC CIRCUIT USING SCINTILLATION DETECTORS (8-Kanal'naya Godoskopicheskaya Sistema s Ispol'zovaniem Stsintillyatsionnykh Detektorov). [1963] [18]p. 6 refs.
Order from OTS or SLA $1.60 AEC-tr-5584

Trans. of mono. [International Atomic Energy Agency] Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 3, 1962, p. 309-321 (STI/PUB/42).

DESCRIPTORS: *Radiation measurement systems, *Scintillation counters, *Coincidence counting, Circuits, Design, Nuclear reactions.

The hodoscopic arrangement described was developed to obtain information on the $\pi\pi$-interaction by studying the reaction involved in the formation of a π-meson by a π-meson with hydrogen ($\pi^- + P \rightarrow \pi^- + \pi^+ + \eta$) (I). This required the construction of a multi-channel system capable of enclosing a large solid angle. Analysis of the recording efficiency in cases involving reaction (I) showed that sub-division of the system into 8 channels gave the optimal conditions with regard to the efficiency and complexity of the system. Reaction (I) is accompanied by background processes with elastic scattering of γ-mesons and charge-exchange scattering owing to the relatively large cross-section. The layout of the block diagram and the parameters of the equipment was determined by the necessity of ensuring that these processes and the background of random coincidences were not recorded. The electronic system was designed to pick out the cases involving reaction (I), which are then photographically recorded in a spark chamber working in conjunction with the system. (Author)

Malkiel, G. S. and Sukhanov, B. I.
A NEUTRON PULSE SOURCE. [1963] 12p. 4 refs.
Order from OTS or SLA $1.60 63-16995

Trans. of Pribory i Tekhnika Eksperimenta (USSR) 1960, no. 4, p. 46-50.

DESCRIPTORS: *Thyratrons, *Neutrons, *Electron tubes, Neutron flux, Particle accelerator components, Design, Ion sources.

A neutron accelerator tube is described, which gives 14-Mev pulses of duration from 10^{-6} to 10^{-8} sec. with a repetition frequency of up to 500 cycles. The instantaneous neutron flux during the pulse is 10^{12} neutrons/sec. A brief description of electronic apparatus for measuring the neutron energy by the transit-time method, is given. (Author)

Mimaud, R. and Cottignies, S.
MACHINE FOR CHECKING THE RADIOACTIVE CONTAMINATION OF CLOTHING, tr. by Myra Scott Feldman. [1963] 5p.
Order from OTS or SLA $1.10 AEC-tr-5523

Trans. of C[ommissariat à l']É[nergie] A[tomique, Paris] (France) no. 2038, 1961.

DESCRIPTORS: Electronic equipment, *Geiger counters, Zinc compounds, Sulfides, *Clothing, Health physics instrumentation, *Radiological contamination.

A machine was designed to check working clothes after decontamination treatment. It checks automatically for α and βγ activity. The clothing is carried on a moving belt under a rack of Geiger-Müller counters followed by zinc sulphide scintillators linked to photomultipliers. During its passage under these probes two separate counting systems count the βγ and the α activities. If a certain fixed rate is reached, a basket reserved for contaminated linen moves into position in

front of the belt to collect the clothing; if this rate is not attained the linen is collected in another basket. The starting and stopping of counting, and the return to zero, are controlled by three photoelectric cells that detect the arrival of the linen before and after the counters, and the delivery into the baskets. (Author)

Moroz, E. M.
NEW POSSIBILITIES OF INCREASING THE EFFICIENCY OF ACCELERATORS OF CHARGED PARTICLES (O Novykh Vozmozhnostyakh Povysheniya Effektivnosti Uskoritelei Zaryazhennykh Chastits).
8 Feb 62 [5]p. (foreign text included) 6 refs. Trafford Park trans. no. 3130; [DSIR] NLL M. 3795.
Order from OTS or SLA $1.10 63-19767

Trans. of Akad[emiya] Nauk SSSR. Dok[lady] 1957, v. 115, no. 1, p. 78-79.

DESCRIPTORS: Charged particles, *Particle accelerators, Design, Effectiveness, *Magnetic fields.

A description of the magnetic system of a new class of accelerator with magnetic fields that are constant in time. (A. E. I. abstract)

Radkevich, I. A., Sokolovskii, V. V. and others.
1024-CHANNEL MAGNETIC-DRUM TIME ANALYZER (1024 Kanal'nyi Vremennoi Analizator na Magnitnom Barabane). [1963] [12]p. 7 refs.
Order from OTS or SLA $1.60 AEC-tr-5507

Trans. of mono. [International Atomic Energy Agency] Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 2, 1962, p. 205-213 (STI/PUB/42).

DESCRIPTORS: *Magnetic recording systems, *Data storage devices, Storage tubes, Magnetic core storage, Timing circuits, Design, Time interval counters, Radiation measurement systems.

A 1024-channel time analyzer with channel widths 0.2, 0.4, 0.8 and 1.6 μs (± 0.1 μs) has been designed and built for work with a mechanical neutron chopper. Choice of the smallest channel width, 0.2 μs, was determined by the minimum duration of neutron pulses obtained with the mechanical chopper. A magnetic-drum memory system with a fast electrostatic temporary memory was employed. The data on the magnetic drum is recorded on an automatic register and on standard punched cards, which enable it to be handled in any computer. (Author)

Viekha, Ya.
EQUIPMENT FOR MEASURING THE LINEARITY AND LONG-TERM STABILITY OF PULSE AMPLIFIER GAIN (Ustroistvo dlya Izmereniya Lineinosti i Dolgovremennoi Ustoichivosti Usileniya Impul'snykh Usilitelei). [1963] [6]p. 1 ref.
Order from OTS or SLA $1.10 AEC-tr-5450

Trans. of mono. [International Atomic Energy Agency] Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 2, 1962, p. 261-264 (STI/PUB/42).

DESCRIPTORS: *Measuring devices (Electrical and Electronic), *Pulse amplifiers, Electric potential, Stability, Design, Automatic gain control, Radiation measurement systems.

A simplified method was used for measuring the linearity and stability of pulse-amplifier gain to an accuracy greater than ± 0.02%. The simplification was based on the use of a single relay switch and a common comparator-channel without the two-pulse volt-meters. The relay, operating with a 0.5 to 1-s period, sends the output pulses from the test amplifier and the calibrated pulses from the pulse-generator to the comparator -- consisting of a discriminator, an expander amplifier and an indicator. The pulse-repetition frequency can be 1000 cycles per second or more. In this simplified method, the comparison is not between single pulses but between groups of these pulses corresponding to intervals of 0.5-1 s. As indicated at the output of the comparator, a pulse-recording voltmeter or a synchronoscope may be used. (Author)

Vysochanskii, M., Mukhin, S. V. and others.
A MULTI-CHANNEL COINCIDENCE CIRCUIT WITH SHORT TIME INTERVALS (Mnogokanal'naya Skhema Sovpadenii s Malym Vremenem Razdeleniya). [1963] [14]p. 5 refs.
Order from OTS or SLA $1.60 AEC-tr-5586

Trans. of mono. [International Atomic Energy Agency] Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 3, 1962, p. 49-58 (STI/PUB/42).

DESCRIPTORS: *Coincidence counting, *Circuits, *Scintillation counters, Radiation measurement systems.

The paper deals with a diode-coincidence circuit with short time intervals. Working with scintillation counters and a three-channel coincidence circuit with 100% efficiency, a resolving time τ = 1.8 ns was obtained and a time interval (half-width of the coincidence curve at 0.1% N_{max}) $\tau 0.1$ = 3.5 ns. The dead time of the coincidence circuit (for coincidence pulses) is 300 ns. The circuit operates from negative pulses of amplitude 500 mV. (Author)

Zhukov, G. P., Zabiyakin, G. I. and others.
MULTI-DIMENSIONAL MAGNETIC TAPE REGISTRATION SYSTEMS WITH STATISTICAL EQUALIZATION (Mnogomernye Sistemy Registratsii na Magnitnoi Lente s Razravnivaniem Statistiki). [1963] [16]p. 14 refs.
Order from OTS or SLA $1.60 AEC-tr-5449

Trans. of mono. [International Atomic Energy Agency] Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 2, 1962, p. 61-71 (STI/PUB/42).

DESCRIPTORS: Multiple operation, *Magnetic recording systems, *Magnetic tapes, Pulse analyzers, Electromagnetic pulses, Data processing systems, Statistical processes, *Radiation measurement systems, Magnetic cores

One likely way of increasing the number of channels of multi-measuring recording systems is the multi-track

recording on magnetic tape of information presented in binary form. A 25-track recording system is briefly described and the fundamental technical characteristics and potentialities of such systems are indicated. A special feature of the recording system described is the use of an "equalizing unit," with which one can obtain a uniform tape recording of input pulses with a statistical time distribution. The main circuit of the equalizing system is given, and means of determining its required capacity for a different spectrum shape described. The question of extracting data from multi-measuring systems is discussed. (Author)

Nuclear Engineering

Anderson, E., Bollmann, W. and others.
THE EFFECT OF RADIATION ON THE DUCTILE-BRITTLE TRANSITION IN PRESSURE VESSEL STEELS. Quarterly rept. 2, Apr-June 61. [1962] 29p.
Order from OTS or SLA $2.60 EURAEC-140

Trans. of a rept. from Battelle Memorial Inst., Geneva (Switzerland) 11 July 61.

DESCRIPTORS: Pressure vessels, *Steel, Neutrons, *Radiation effects, Ductility, Brittleness, *Tensile properties, Tests, Electron microscopy, Reactor materials, Transition temperature.

This report describes progress made in the preparation of samples. Suitable conditions for the drawing of wires were examined. One vacuum furnace for the annealing of long wires was constructed and is working satisfactorily; a second furnace is nearly complete. The method of gas analysis (and its inherent difficulties) is discussed in more detail than in the previous report; the apparatus has been modified and will be functioning shortly. One section deals with the procedures used for obtaining different grain sizes and measuring them accurately. The conditions for obtaining a wide range of grain sizes have been determined, and it is shown that the distribution of the grains so obtained is uniform to a reasonable degree. In the field of electron microscopy, the techniques of preparation have been improved and transmission studies of thin foils are under way. The possibility of introducing vacancies by quenching is discussed; since vacancies are introduced by irradiation, together with interstitial atoms, quenching experiments would, in principle, give a way of studying one irradiation induced defect in the absence of the others. (Author)

Bergelson, B. R.
A CALCULATION OF THE PASSAGE OF FAST NEUTRONS THROUGH CYLINDRICAL CHANNELS IN A BIOLOGICAL SHIELD. [1963] 6p. 4 refs.
[DSIR] NLL M. 3698.
Order from OTS or SLA $1.10 63-23397

Trans. of #Atomnaya Energiya (USSR) 1961, v. 10, no. 4, p. 388-389.
Another trans. is available from OTS or SLA in 62-13570, MCL-1208, 19 Sep 61 [90]p.

DESCRIPTORS: *Reactor shielding calculations, *Fast neutrons, *Shielding, Reactor shielding materials, Nuclear reactors, Cylindrical bodies.

Jung-König, W., Richter, H., and Zwicker, U.
INVESTIGATION OF ALLOYS OF ZIRCONIUM WITH NIOBIUM AND TIN IN VIEW OF THEIR UTILIZATION AS SHEATHING MATERIAL IN WATER-COOLED NUCLEAR REACTORS: ON THE EFFECT OF HYDROGEN ON THE CONSTITUTION AND THE MECHANICAL PROPERTIES OF ZIRCONIUM ALLOYS WITH NIOBIUM AND TIN CONTENTS. Special technical rept. 2 concerning proposal 139, on Contract 047-61-4 RDA. [1963] 38p. 14 refs.
Order from OTS or SLA $3.60 EURAEC-353

Trans. of a rept. from Metallgesellschaft A. G., Frankfurt a. M. (West Germany) 10 May 62.

DESCRIPTORS: *Light water reactors, *Zirconium alloys, *Niobium alloys, *Tin alloys, *Reactor fuel cladding, Nuclear reactors, *Hydrogen, Mechanical properties, Phase studies, Solubility, Corrosion, Heat resistant metals and alloys, Water, Reactor coolants.

In zirconium alloys containing niobium, hydrogen has stabilizing action on the β_{Zr}-phase and extents the β-$_{Zr}$-field. This promotes the formation of a martensitic transformation texture within the concentration range under test. Coarse needle-shaped hydride precipitates in alloys with about 3 % of niobium (and an addition of up to 1% of tin) mainly occur after quenching down from temperatures above 700°C, on account of a decline in the solubility of hydrogen in β_{Zr}. Hydrogen reduces the deformability, especially at room temperature. The effect on the yield strength limits, on the strength and on the creep behavior depending on time differs on account of a simultaneous influence on the hardening. The elongation limits with higher elongations and the strength are however increased due to the higher cold-hardening. In the niobium containing alloys ZrNb2 and ZrNb3Sn1, a hydrogen content shifts the sudden drop of the notch impact strength toward higher temperatures.

Kirilloy, P. L., Subbotin, V. I. and others.
DER WÄRMEÜBERGANG VON DER ROHRWANDUNG AUF EINE NATRIUM-KALIUM-SCHMELZE BZW. QUECKSILBER (Heat Transfer in a Tube to Mercury and to Sodium-Potassium alloy). 15p.
Order from TIB $2.45

Trans. in German of #Atomnaya Energiya (USSR) 1959, v. 6, no. 4, p. 382-390.

DESCRIPTORS: *Heat transfer, Mercury, Sodium alloys, Potassium alloys, Pipes.

Timofeev, P. V. and Simchenko, Yu. A.
EINE NUKLEARE HOCHSPANNUNGSQUELLE (A Nuclear High-Voltage Source). 6p.
Order from TIB $1.30

Trans. in German of #Atomnaya Energiya (USSR) 1959, v. 6, no. 4, p. 470-472.

DESCRIPTORS: *Nuclear energy, *Voltage, Sources.

PERSONNEL SUPPLIES AND PERSONAL EQUIPMENT

PRODUCT FOR DEGREASING AND DRESSING HAIR. [1963] [1]p.
Order from OTS or SLA $1.10 63-16004

Trans. of French patent 620,213, n.d.

DESCRIPTORS: *Toilet articles, *Hair.

PHYSICS

JOURNAL OF ENGINEERING PHYSICS, 1963, VOL. 6, NO. 3. 25 July 63, 190p. JPRS: 20334.
Order from OTS $3.00 63-31372

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1963, v. 6, no. 3, p. 3-139.

DESCRIPTORS: *Physics, *Engineering, Heat transfer, Heat transfer coefficient, Combustion, Gas flow, Electrodes, Mass transfer, Wire, Liquids, Convection, Optical systems, Distortion, Fuel cells, Peat, Moisture.

Contents:
Heat transfer in annular tubes, by B. S. Petukhov and L. I. Roizen
Heat transfer from a freely rotating nonuniformly heated disk, by V. M. Kapinos
Contribution to the theory of heat transfer from an isothermal flat plate to a turbulent fluid stream, by D. B. Spalding
Effect of pressure on maximum temperature in combustion zone and ignition temperature of a homogeneous mixture in turbulent flow, by V. S. Pelevin
On the relation between rate and irreversibility of heat transfer, by I. T. El'piner
Temperature field of infinite plate when ambient temperature and heat transfer coefficient vary with time, by Yu. L. Rozenshtok
Burning constants of coke from Moscow coal, by K. N. Khitrin and L. L. Kotova
On the motion of material in a vertical flow of gases, by V. A. Sheiman and V. I. Kasper
Utilization efficiency of porous electrodes operating with a diffusive feed of reagent, by I. G. Gurevich and V. S. Bagotskii
The temperature field in the cooled electrode of an arc heater with a stationary arc, by V. I. Krylovich
Nonstationary heat conduction in multi-layered media III. Three and four-layered systems, by G. F. Muchnik and I. A. Zaidenman
An investigation of heat and mass transfer in capillary bodies during heating processes, by O. A. Rudenko-Gritsyuk and A. A. Mikhelev
Experimental determination of the degree of blackness of platinum and platin-rhodium wire, by S. G. Agababov and A. Komarek
Effect of temperature on the rise of liquids in capillaries under the influence of high-frequency vibrations, by E. G. Konovalov and I. N. Germanovich
Free convection in aqueous salt solutions in vertical tubes of circular cross section, by E. L. Slavnova
Distortions in optical tubes due to thermal convection, by A. N. Kozlova
Kirillin, Vladimir Alekseevich
Kalte verbrennung--fuel cells: book review by I. G. Gurevich of mono. by E. Justi and A. Winsel, pub. Wiesbaden, 1962
Thematic conference on the theory of the regular heat regime, Kiev, Sep 62 by V. I. Krylovich and I. P. Zhuk
On the determination of the moisture content of peat by the method described by N. I. Skvortsova and Ya. E. Chudars
On P. K. Konakov's paper, by A. S. Nevskii

PLASMA PHYSICS AND CONTROLLED NUCLEAR FUSION RESEARCH, CONFERENCE PROCEEDINGS, SALZBURG, 4-9 SEP 61. Feb 63, 1034p.
Order from OTS $10.50/2 books AEC-tr-5589, bks. 1-2

Trans. of mono. Trudy Konferentsii po Issledovaniyu Fiziki Plazmy i Upraolyaemomu Yadernomu Sintezu, Salzburg, 4-9 Sep 61.

DESCRIPTORS: *Plasma physics, *Nuclear physics, *Thermonuclear reactions, Nuclear reactions, *Scientific research, *Conferences, Magnetic fields, Ion beams, Electric fields, Cyclotron resonance phenomena, Gas discharges, Plasma oscillations, Cavity resonators, Electromagnetic waves, Magnetic pinch, Nuclear spectroscopy, Microwaves, Radiation measurement systems, Hydrogen, Shock waves, Plasma jets, Propagation, Magnetohydrodynamics, Charged particles, Ionization, Deuterium, Diffusion, Electron beams, Bremsstrahlung.

Contents:
Investigation of behavior of plasma in the "Orekh" magnetic trap, by N. G. Koval'skii and others (IAEA CN-10/237)
Plasma trapping in a radially increasing magnetic field, by I. M. Podgornyi and V. I. Sumarokov (IAEA CN-10/204)
Properties of a plasma formed by the injection into ogra of a beam of fast molecular hydrogen ions, by G. F. Bogdanov and others (IAEA CN-10/210)
Cyclotron and thermal radiations of plasma in ogra, by A. E. Bazhanova and others (IAEA CN-10/212)
Experimental investigation of plasma instability in a magnetic mirror trap, by M. S. Ioffe and E. E. Yushmanov (IAEA CN-10/216)
Investigation of plasma in the "Ogrenok" adiabatic trap, by N. N. Brevnov and others (IAEA CN-10/225)
Interaction of high frequency electromagnetic fields with a plasma, by R. A. Demirkhanov and others (IAEA CN-10/233)
Production of pure high-temperature plasma in quasi-stationary systems: processes leading to the introduction of impurities in the plasma, by V. A. Simonov and others (IAEA CN-10/254)
Maintaining ultra low pressures of neutral gas during the accumulation of high temperature plasma in magnetic traps, by V. A. Simonov and others (IAEA CN-10/255)
The quasi-linear theory of plasma oscillations, by A. A. Vedenov and others (IAEA CN-10/199)
On the mechanism of the high-current gas discharge in a weak magnetic field, by A. P. Babichev and others (IAEA CN-10/215)
Experiments on interaction of a plasma with an electromagnetic field with a cavity resonator, by Yu. I. Arsen'ev and others (IAEA CN-10/218)
Microscopic instabilities of spatially inhomogeneous plasma in a magnetic field, by L. I. Rudakov and R. Z. Sagdeev (IAEA CN-10/220)

Transverse motion of a plasma in a magnetic field, by L. I. Elizarov and A. V. Zharinov (IAEA CN-10/221)

Investigation of a toroidal discharge in a varying longitudinal magnetic field, by D. P. Ivanov and K. A. Razumova (IAEA CN-10/222)

Dense high-temperature plasma in a non-cylindrical Z-pinch compression, by N. V. Filippov and others (IAEA CN-10/226)

Some new data on self-compressed discharges, by I. F. Kvartskhava and others (IAEA CN-10/232)

Cyclotron absorption of electromagnetic waves in a plasma, by L. S. Bogdankevich and others (IAEA CN-10/243)

Transport and containment of moving plasma concentrations, by G. A. Askar'yan and others (IAEA CN-10/245)

Experimental investigation of magnetic-acoustic resonance, by A. V. Bartov and others (IAEA CN-10/207)

Absorption of energy of alternating electromagnetic fields, of large amplitude by a plasma, by M. V. Babykin and others

Experimental investigation of joule heating of plasma in a strong magnetic field, by E. P. Gorbunov and others (IAEA CN-10/223)

Turbulent discharge in a longitudinal magnetic field, by B. B. Kadomtsev and others (IAEA CN-10/227)

Interaction of an electron beam with a plasma in a magnetic field, by I. F. Kharchenko and others (IAEA CN-10/230)

Investigation of ion cyclotron waves, by N. I. Nazarov and others (IAEA CN-10/231)

Investigation of a current of atomic particles emitted by a plasma, by V. V. Afrosimov and others (IAEA CN-10/238)

Spectral investigations of plasma in the "Alpha" device, by A. B. Berezin and others (IAEA CN-10/239)

Investigation of noise radiation by a hot plasma in the centimeter and millimeter wavelength range, by M. M. Larionov and others (IAEA CN-10/241)

Radiation by impurities in a rarefied hot hydrogen plasma, by A. P. Vasil'ev and others (IAEA CN-10/197)

Shock waves in dilute plasma, by A. A. Vedenov and others (IAEA CN-18/296)

Compression of a plasma by a rapidly increasing magnetic field, by G. N. Aretov and others (IAEA CN-201)

Injection of plasma into vacuum from a powerful pulse discharge, by Yu. D. Klebanov and V. I. Sinitsyn (IAEA CN-203)

Propagation of electromagnetic waves in a plasma along a magnetic field, by I. A. Kovan and others (IAEA CN-62/69)

Theory of magnetoacoustic resonance in a plasma, by D. A. Frank-Kamenetskii

Measurement of the energy of ions in a trap with magnetic mirrors, by Yu. V. Gott and V. G. Tel'kovskii (IAEA CN-10/208)

Motion of individual charged particles in a trap with magnetic mirrors of the Ogra type, by V. M. Balebanov and others (IAEA CN-23/124)

Ionic-sound excitation in the positive column of a gas discharge, by A. V. Nedospasov (IAEA CN-10/239)

Investigation of various states of compression of a plasma loop in the Zh-O installation, by S. M. Osovets and others (IAEA CN-18/294)

Influence of impurities on ionization and heating of deuterium plasma, by G. G. Dolgov-Savel'ev and others (IAEA CN-10/224)

Stabilization of low-pressure plasma with an electric field, by T. F. Volkov and others (IAEA CN-18/284)

Motion of plasmoids in inhomogeneous magnetic field, by V. S. Voitsenya and others (IAEA CN-229)

Investigation of conditions of charge development in a spatially-periodic magnetic field, by R. A. Demirkhanov and others (IAEA CN-234)

On the character of the instability arising from the interaction of an electron beam with a plasma, by R. A. Demirkhanov and others (IAEA CN-10/235)

Experimental investigations of electric and magnetic characteristics of a gas discharge in the 'Alpha' apparatus, by V. A. Burtsev and others (IAEA CN-236)

Pulse method for the measurement of the energy distribution of particles leaving a plasma, by D. G. Bulyginskii and others (IAEA CN-240)

Structure of nonlinear waves in a plasma, by V. N. Tsytovich (IAEA CN-246)

Contribution of the theory of fluctuations in a plasma, by V. P. Silin (IAEA CN-247)

Spectroscopic measurement of ion temperature with the "Tokomak" apparatus, by V. G. Koloshnikov and S. L. Mandel'shtam (IAEA CN-249)

System for the confinement of a plasma by the field of a traveling wave, by V. G. Andreev and others (IAEA CN-250)

Method of strong focusing for stabilization of straight and toroidal discharges, by M. L. Levin and M. S. Rabinovich (IAEA CN-251)

Interaction between an electron beam and a plasma in a magnetic field, by E. A. Pashitskii (IAEA CN-252)

Interaction between ion beam and magnetoactive plasma, by N. L. Tsintsadze and D. G. Lominadze (IAEA CN-253)

Electromagnetic waves propagating in a magnetoactive plasma transversely to an external magnetic field, by Yu. N. Dnestrovskii and P. N. Kostomarov

Effect of the radiation effects on the relaxation of electrons and the electric conductivity of a plasma in a strong magnetic field, by A. I. Akhiezer and others (IAEA CN-259)

Magnetic bremsstrahlung of plasma electrons, by V. I. Pakhomov and others (IAEA-CN-260)

Investigation of diffusion of charged particles of a dense plasma in a magnetic field, by A. I. Anisimov and others (IAEA CN-237)

Andreev, G. A. and Zverev, V. A.
ON A METHOD OF INVESTIGATING THE STATISTICAL PROPERTIES OF MEDIA WITH RANDOM NON-HOMOGENEITIES BY MEANS OF FREQUENCY MODULATED SOUND RADIATION. [1963] [12]p. 12 refs. [DSIR] NLL M. 10080.
Order from OTS or SLA $1.60 63-23356

Trans. of #Akusticheskii Zhurnal (USSR) 1962, v. 8, no. 1, p. 42-48.

DESCRIPTORS: *Correlation techniques, Statistical functions, *Underwater sound, Sound, *Propagation, Scattering, Frequency modulation, Antenna radiation patterns, Geophysics.

The time correlation functions and correlation intervals of scattered acoustic frequency modulated radiation were determined experimentally in the sea, under hydrometeorological conditions which frequently occur. The mean square speeds of movement of the non-homogeneities of a marine medium were computed for wandering non-homogeneities on the basis of the theory of scatter. Block diagrams are given of the apparatus used in carrying out the experiments and in the statistical processing of the experimental results. (Author)

Comanducci, E.
INFLUENCE OF SILENT ELECTRICAL DISCHARGES ON SOME MIXTURES OF GASES AND VAPORS. [1962] 5p.
Order from K-H $7.25 K-H 3438

Trans. of R. Accademia delle Scienze Fiziche e Matematiche, Naples. Rendiconti (Italy) 1909 [ser. 3] v. 15, p. 15-17.

DESCRIPTORS: Vapors, Gases, *Mixtures, *Electric discharges.

Khapalyuk, A. P.
ELECTROMAGNETIC FIELD INSIDE A PLANE-PARALLEL PLATE IN A RESONANCE ABSORPTION REGIME, tr. by B. W. Kuvshinoff. 18 July 63, 6p. 2 refs. APL/JHU TG 230-T367.
Order from OTS $0.50 63-11673

Trans. of Akad[emiya] Navuk BSSR [Minsk]. Doklady, 1962, v. 6, no. 5, p. 301-304.

DESCRIPTORS: *Cavity resonators, Flat plate models, *Optical properties, *Electromagnetic waves, Propagation, *Resonance absorption, Light, Production, Masers, Lasers.

Koloty, V. S. and Gerchikov, D. S.
THE EFFECT OF THE MATERIAL OF THE ELECTRODES ON IGNITION OF EXPOSIVE GAS MIXTURES BY A SPARK DISCHARGE. [1963] 6p. 4 refs. NCB Trans. A.2145/SEH; [DSIR] NLL M.3973.
Order from OTS or SLA $1.10 63-19857

Trans. from Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 10.
Another trans. is available from OTS or SLA $3.60 in 62-24353, FTD-TT-62-84, 24 Apr 62 [35]p.

DESCRIPTORS: *Explosive gases, *Electrodes, *Ignition, Sparks, *Electric discharges, Air, Hydrogen, Mixtures, Metals.

The statistics of ignitions of air-hydrogen mixtures are analysed in this report, metal electrodes (without alloys or compositions) were investigated. A relation between ignitability and certain physico-chemical properties of the metal was established. (Author)

Sotskii, B. A. and Goncharenko, A. M.
ELECTROMAGNETIC FIELD OF A PLANE PARALLEL PLATE UNDER SELF-EXCITATION, tr. by B. W. Kuvshinoff. 18 July 63, 6p. 3 refs. APL/JHU TG 230-T368.
Order from OTS $0.50 63-11674

Trans. of Akad[emiya] Navuk BSSR [Minsk]. Doklady, 1962, v. 6, no. 5, p. 297-300.

DESCRIPTORS: *Cavity resonators, Flat plate models, *Electromagnetic fields, Oscillation, Excitation, Masers, Lasers.

Troitskii, V. S.
THE MEAN FREE PATH OF MOLECULES IN A MOLECULAR BEAM (Dlina Svobodnovo Probega Molekul v Molekulyarnom Puchke). 18 Apr 62 [3]p. 1 ref. Trafford Park trans. no. 3168; [DSIR] NLL M.3792.
Order from OTS or SLA $1.10 63-19770

Trans. of #Zhur[nal] Eksper[imental'noi i] Teoret[icheskoi] Fiz[iki] (USSR) 1961, v. 41, no. 2(8), p. 389-390.

DESCRIPTORS: *Molecular beams, Molecules, Velocity, Distribution, Scattering, Kinetic theory.

It is shown that the mean free path of a molecule at some given point in a molecular beam with a Maxwellian velocity distribution is almost exactly three times greater than the path length in a gas of the same density. (AEI abstract)

Tsho, Fu-tsin.
A NEW BRANCH OF SCIENCE-MAGNETOHYDRODYNAMICS. 11 June 63 [8]p. FTD-TT-63-207.
Order from OTS or SLA $1.10 63-23185

Unedited rough draft trans. of K'o Hsüeh Ta Chung (Chinese People's Republic) 1962, no. 1, p. 8-9.

DESCRIPTORS: *Magnetohydrodynamics, Solar disturbances, Sunspots, Space flight, Thermonuclear reactions.

Topic include: Solar storms; the mystery of the non-sinking dark spots; space flight applications; and, applications in the development of atomic power.

Zege, E. P., Samson, A. M., and Stepanov, B. I.
EXCITATION OF NATURAL LUMINESCENCE IN A PLANE-PARALLEL PLATE, tr. by B. W. Kuvshinoff. 18 July 63, 7p. 10 refs. APL/JHU TG 230-T365.
Order from OTS $0.50 63-11672

Trans. of Akademiya Navuk BSSR [Minsk]. Doklady, 1962, v. 6, no. 5, p. 288-292.

DESCRIPTORS: *Cavity resonators, Flat plate models, *Luminescence, Excitation, Density, Absorption, Optics, Nonlinear systems, Masers, Lasers.

A study is made of the time dependence of radiation density, the absorption coefficient, and the brightness of the flux leaving the plate. Calculations are made with approximations of nonlinear optics. (Author)

Electricity and Magnetism

Bar'yakhtar, V. G. and Kaganov, M. I.
INHOMOGENEOUS RESONANCE AND SPIN WAVES. [1963] 19p. 14 refs.
Order from OTS or SLA $1.60 63-14469

Trans. of mono. Ferromagnitnyi Rezonans: [Yavlenie Rezonansnogo Poglosheniya Vysokochastotnogo Elektromagnitnogo Polya v Ferromagnitnykh Veshchestvakh (Ferromagnetic Resonance: The Phenomenon of Resonance Absorption of a High-Frequency Electromagnetic Field in a Ferromagnetic Substances) ed. by S. V. Vonsovskii, Moscow, 1961, p. 266-284.

DESCRIPTORS: *Ferromagnetic materials, Magnetic moments, *Resonance, Electromagnetic fields, Ellipsoids, Resonance absorption.

Bobrov, V. N.
DEVICE FOR MEASURING TEMPERATURE COEFFICIENTS OF SMALL MAGNETS. 22 May 63 [7]p. 3 refs. FTD-TT-63-423.
Order from OTS or SLA $1.10 63-23200

Unedited rough draft trans. of #Geomagnetizm i Aeronomiya (USSR) 1962, v. 2 [no. 3] p. 550-552.

DESCRIPTORS: *Magnets, *Meters, Temperature, Magnetic properties.

Described here is a device intended for rapid measurement of temperature coefficients of small magnets with temperature coefficients $\mu \geq 10^{-6}$. (Author)

Gertsenshtein, M. E.
ENERGY CORRELATIONS IN A SPATIALLY DISPERSED MEDIUM. [1963] 6p. 4 refs.
Order from OTS or SLA $1.10 63-14449

Trans. of Zhurnal Eks[perimental'noi] i Teor[eticheskoi] Fiz[iki] (USSR) 1954, v. 26, no. 6, p. 680-683.

DESCRIPTORS: *Energy, *Electromagnetic theory, Electrons. Plasma physics, Tensor analysis.

Il'nitskii, L. Ya.
PULSE METHOD OF EXECUTING DIVISION OPERATIONS. 17 June 63 [5]p. FTD-TT-63-501.
Order from OTS or SLA $1.10 63-23448

Unedited rough draft trans. of Russian patent 145,019 (appl. 683,060/26, 22 Oct 60).

DESCRIPTORS: *Voltage dividers, Electric discharges, Electric potential.

The invention concerns a pulse method of carrying out division operations, characterized by the fact, that the quotient from the division of two analog voltages is formed in form of a saw tooth voltage amplitude, obtainable at periodically charging the capacitor with voltage, proportional to the divided one, and periodically discharging same by pulses, following at a frequency, directly proportional to the divider. (Author)

Kagan, B. M. and Urman, E. L.
CALCULATION ON DIGITAL COMPUTERS OF TRANSIENT PROCESSES ON SYNCHRONOUS MACHINES BY DIFFERENTIAL EQUATIONS WITH RECURRING COEFFIENTS (Rastshot na Tsifrovykh Vytshislitelnykh Mashinakh Perekhodnykh Protsessov v Sinkhronnykh Mashinakh po Differentsialnym Uravneniyam s Perioditsheskimi Koeffitsientami). Dec 62 [14]p. 4 refs. RTS-2205.
Order from OTS or SLA $1.60 63-15952

Trans. Elecktrichestvo (USSR) 1961, no. 4, p. 43-48.

DESCRIPTORS: *Electric machinery, *Transients, *Differential equations, Integration, Digital computers.

Landkof, N. S.
ON THE GENERAL THEORY OF LINEAR FILTERS. [1963] [7]p. 6 refs.
Order from OTS or SLA $1.10 63-14413

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 4, p. 776-778.

DESCRIPTORS: *Electric filters, Theory, Frequency.

Startseva, I. E. and Shur, Ya. S.
THE NATURE OF THE RECTANGULARITY OF THE HYSTERESIS LOOP FOR Mg-Mn FERRITES. Paper from the Conference on Ferromagnetism and Antiferromagnetism (no. 1) Leningrad, 5-11 Mar 61 [1963] 8p. 8 refs.
Order from OTS or SLA $1.10 63-16561

Trans. of #Akad[emiya] Nauk SSSR. Izvestiya. Seriya Fiz[icheskaya] 1961, v. 25, no. 12, p. 1469-1472.

DESCRIPTORS: Antiferromagnetism, Ferromagnetism, Conferences, *Ferrites, *Manganese compounds, *Magnesium compounds, *Hysteresis, Domains (Crystallography).

Veverka, Antonin.
CORONA IN DIELECTRICS (Korona v Dielektriku). [1963] [29]p. (foreign text included) 4 refs.
Order from SLA $2.60 63-16705

Trans. of Elektrotechnicky Obzor (Czechoslovakia) 1961, v. 50, no. 1, p. 85-90.

DESCRIPTORS: *Electric insulation, *Dielectrics, *Electrical corona, Transformers, Electric potential, Coils.

In the first part of his paper the author analyzes the conditions at a single discharge in the cavity of the dielectric of an object which we may consider a concentrated capacitance. For this purpose, an ideal model is employed. On an example it is shown how the results may be applied to power considerations at an alternating voltage. From the power balance on the model, for which holds $C_1 < C_2 \ll C_3$, follows that at the instants of discrete discharges the energy delivered to the model is identical with the energy consumed in the model at these discharges. The second part presents an analysis of the power conditions in the winding of a coil with a grounded end at discharges in the cavity of the insulation to ground (transformer arrangement). A capacitance model of the coil is used, and at first the case is considered in which the voltage prior to the discharge is naturally distributed according to the capacitances of the model. In this case the energy delivered to the model at a single discharge is in a constant relation to the energy lost at the discharge in the model, and this relation is independent of the position of the point of discharge. (Author)

Molecular Physics and Spectroscopy

Chupakhin, M. S. and Glavin, G. G.
THE MASS-SPECTROGRAPHIC DETERMINATION OF MICROIMPURITIES IN SOLID SUBSTANCES. [1963] 9p.
Order from ATS $7.50 ATS-04Q71R

Trans. of #Zh[urnal] Anal[iticheskoi] Khim[ii] (USSR) 1963, v. 18, no. 5, p. 618-623.

DESCRIPTORS: Solids, *Impurities, Determination, *Mass spectroscopy.

Ionov, N. I. and Karataev, V. I.
DOUBLE MAGNETIC MASS SPECTROMETER FOR THE ANALYSIS OF MINOR CONTAMINANTS. [1963] 6p. 3 refs.
Order from OTS or SLA $1.10 AEC-tr-5622

Trans. of #P[ribory i] T[ekhnika] E[ksperimenta] (USSR) 1962 [v. 7] no. 3 [p. 119-122.

DESCRIPTORS: *Mass spectroscopy, Spectrum analyzers, Design, Impurities, Analysis, Resolution, *Potassium, Isotopes, Quantitative analysis.

A two stage mass spectrometer with a single magnetic field is described. It is intended for the analysis of minor components. The mass spectrum of the isotopes of potassium is shown as an example of the possibility of making quantitative measurement of two peaks differing by one mass unit and with a ratio of intensities of 10^7. (Author)

Malyshev, V. I.
STUDY OF THE TRANSMISSION SPECTRUM OF FOG IN THE INFRARED SPECTRUM. [1963] [12]p. 12 refs.
Order from OTS or SLA $1.60 63-14678

Trans. of mono. Convention on Spectroscopy (no. 10) USSR, 1954. Materials, v. 1, p. 121-125.

DESCRIPTORS: *Fog, *Infrared spectroscopy, Spectrophotometers, Water vapor, Atomization, Wave transmission, Absorption spectrum.

Molin, Yu. N., Chkheidze, I. I. and others.
INVESTIGATION OF THE PROCESSES OF ENERGY TRANSFER DURING THE RADIOLYSIS OF SOME FROZEN HYDROCARBONS, USING ESR METHOD, tr. by I. Gawronska. 3 Mar 62, 7p. 11 refs. Courtaulds Ltd. Misc. Lit. 3460; [DSIR] NLL M.3738.
Order from OTS or SLA $1.10 63-19818

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 131 [no. 1] p. 125-128.
Another trans. is available from OTS or SLA $1.10 as 63-15130 [1962] 6p.

DESCRIPTORS: *Radiation chemistry, *Hydrocarbons, Freezing, *Radiolysis, *Cyclohexanes, *Benzenes, Phenyl radicals, Alkyl radicals, Free radicals, Chemical bonds, Energy, *Paramagnetic resonance, Absorption spectrum.

Sevchenko, A. N. and Trofimov, A. K.
PHOTOLUMINESCENCES OF BENZOYLACETONATES OF EUROPIUM AND OF SAMARIUM (Issledovanie Fotolyuministsentsii Benzoilatsetonatov Evropiya i Samariya). [1963] [17]p. 14 refs.
Order from OTS or SLA $1.60 63-16467

Trans. of Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (USSR) 1951, v. 21, no. 2, p. 220-229.
Other translations are available from OTS or SLA $1.60 as 61-14755 [1961] 11p. and from ATS $13.85 as ATS-11N49R.

DESCRIPTORS: *Europium compounds, *Samarium compounds, *Benzoyl radicals, *Acetones, Luminescence, Absorption spectrum

For abstract see Technical Translations 6:380, 1961.

Shapiro, F. L.
INCREASE OF INTENSITY IN TIME-OF-FLIGHT MEASUREMENTS BY SWEEPING THE BEAM OVER THE TARGET, tr. by Helen J. Chick and Lawrence Cranberg. [1962] 9p. 2 refs.
Order from OTS or SLA $1.10 AEC-tr-5540

Trans. of Pribory i Tekhnika Eksperimenta (USSR) 1957, no. 1, p. 33-36.

DESCRIPTORS: *Particle accelerator targets, *Ion beams, Luminescence, Spectrum analyzers, Intensity, Time.

A method of boosting the luminosity of the spectrometer in time-of-flight work is investigated.

Sigematsu, T. and Tabushi, M.
DOSAGE PHOTOMÉTRIQUE DU BERYLLIUM PAR L'EMPLOI D'ACÉTYLACÉTONE ET APPLICATION AU DOSAGE DU BERYLLIUM CONTENU DANS LES ALLIAGES D'ALUMINIUM (Spectrophotometric Determination of Beryllium with Acetylacetone, Application to Aluminium-Alloy). 12p. 2 refs. FX-1105.
Order from OTS, ETC or CNRS $9.80 62-26937

Trans. in French of Nihon Kagaku Zasshi (Japan) 1959, v. 80, p. 162-165.

DESCRIPTORS: *Beryllium alloys, Aluminum alloys, *Beryllium, Acetones, Acetyl radicals, Absorption, Spectrophotometers.

Optics

INTERFEROMETER FOR ASSEMBLING AND ADJUSTING OF LENSES. 25 June 63, 3p. 9889/60 Japan.
Order from INT $7.50

Trans. of Japanese patent 9889/60 by Director of Agency of Industrial Science and Technology, Japan., filed 25 Sep 56.

DESCRIPTORS: *Lenses, *Interferometers.

Churaev, P. V.
OBTENTION DES MICROPHOTOGRAPHIES ÉLECTRONIQUES D'UNE PARCELLE DONNÉE DE LA SECTION POLIE D'UN ÉCHANTILLON EXAMINÉ (Poluchenie Elektronnykh Mikrofotografii s Zadannogo Uchastka Shlnfa Issleduemogo Obraztsa) [Obtaining Electron Photomicrographs of a Given Area on Polished Specimens Being Studied] tr. by B. Detrezvinsky. 9 Nov 61 [12]p. (foreign text included) 7 refs. CEA Trans. no. R 1392.
Order from OTS or SLA $1.60 62-13803

Trans. in French of Akad[emiya] Nauk SSSR. Otdel[enie] Tekh[nicheskikh] Nauk. Izvest[iya: Metallurgiya i Toplivo] 1960, no. 5, p. 221-223.

DESCRIPTORS: *Electron microscopy, Photomicrography.

Stepanov, B. I. and Samson, A. M.
NONLINEAR OPTICAL PHENOMENA IN PLANE PARALLEL PLATES, tr. by B. W. Kuvshinoff. 18 July 63, 8p. 6 refs. APL/JHU TG 230-T369.
Order from OTS $0.50 63-11671

Trans. of Akademiya Navuk BSSR [Minsk]. Vesti. Seryya Fizika-Tekhnichnykh Navuk, 1961, no. 4, p. 45-49.

DESCRIPTORS: *Optical phenomena, *Optical properties, Reflection, Light transmission, Absorption, Optics, Mathematical analysis.

A theoretical investigation is presented concerning the features of reflection and transmission by a plane parallel plate when $k < 0$. The calculation is made in terms of geometric optics, taking into consideration the dependence of the absorption coefficient on the intensity of radiation.

Solid State Physics

GLASSY STATE: SELECTED ARTICLES. 6 May 63 [51]p. 30 refs. FTD-TT-63-265.
Order from OTS or SLA $5.60 63-23203

Unedited rough draft trans. of mono. Stekloobraznoe Sostoyanie [Structure of Glass] Moscow, 1960, p. 115-119, 177-194, 360-365, 387-391 [Trudy Tret'ego Vsesoyuznogo Soveshchaniya, Leningrad, 16-20 Nov 59].

DESCRIPTORS: *Glass, *Silicates, *Crystallization, Absorption spectrum, *Spectra (Infrared), *Sodium compounds, Crystal structure, Microstructure, *Cerium compounds, Ionization, Elasticity, Temperature

Contents:
Formation of the crystal phase from a silicate fusion, by A. I. Avgustinik
Infrared reflection spectra of sodium-silicate glass, and their connection with structure, by V. A. Florinskaya
Effect of glass structure on spectral and chemical properties of cerium ions, by G. O. Karpetyan
Elastic properties of glass as a function of temperature, by E. I. Kozlovskaya

JOURNAL OF HIGHER EDUCATIONAL INSTITUTIONS; PHYSICS, 1962, NO. 5: SELECTED ARTICLES. 3 June 63 [42]p. 37 refs. FTD-TT-63-350.
Order from OTS or SLA $4.60 63-23204

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Fizika (USSR) 1962, no. 5, p. 34-45, 150-160.

DESCRIPTORS: *Physics, Solid state physics, *Electric insulation, Polyethylene plastics, Polyamide plastics, Dacron, Polymers, Plastics, *Dielectric properties, *Radiation effects, Gamma rays, X rays, Ultraviolet radiation, *Diodes, *Semiconductors, *Electroforming, Gallium compounds, Germanium compounds, Silicon compounds, Arsenides, *Ferromagnetic materials, Single crystals, *Magnetostriction, Temperature.

Contents:
Dielectric properties of insulating materials under gamma-irradiation, by B. I. Vorozhtsov and others
Investigation of the electrical forming of point-contact diodes, by A. P. Vyamkin and A. A. Vilisov
Variation of dielectric losses in crystallizing polymers under the action of ionizing radiation, by N. I. Ol'shanskaya and B. I. Vorozhtsov
Temperature dependence of the saturation magnetostriction of single crystals of ferrosilicon, by A. Ya. Vlasov and I. L. Gus'kova.

Borisova, L. A., Efremova, M. V., and Vlasov, V. V.
STRUCTURAL DIAGRAM OF THE SYSTEM Tl_2Te_3-Bi_2Te_3 AND PROPERTIES OF THE ALLOYS OBTAINED. 30 Apr 63 [7]p. 1 ref.
Order from OTS or SLA $1.10 63-16408

Trans. of Akademiya Nauk SSSR. Doklady, 1963, v. 149 [no. 1] p. 117-119.

DESCRIPTORS: *Thalium alloys, *Tellurium alloys, *Bismuth alloys, *Semiconductors, Thermal conductivity, Electrical conductance, Thermoelectricity, Alloys, Intermetallic compounds.

In the system Tl_2Te_3-Bi_2Te_3, a new semiconducting compound $TlBiTe_3$ was found, melting at 600°C., and the range of solid solutions based on Bi_2Te_3 has been determined within concentration limits up to 95 atom % Bi_2Te_3. The new compound has a high electrical conductivity and coefficient of thermoelectric EMF, together with a relatively low thermal conductivity, which permits recommending it as a promising thermoelectric material. (Author)

Chaudron, Georges and Forestier, Hubert.
A STUDY OF THE DECOMPOSITION OF FERROUS OXIDE: ANOMALIES IN THE DILATATION IN RELATION TO THIS INSTABILITY (Étude de la Decomposition du Protoxyde de Fer: Anomalies de Dilatation Correlatives de Son Instabilite). [1963] [6]p. (foreign text included) 1 ref.
Order from SLA $1.10 63-16736

Condensed trans. of Academie des Sciences [Paris]. C[omptes] R[endus] (France) 1924, v. 178, no. 26, p. 2173-2176 (pub. by Gauthier-Villars et Cie., Paris).

A complete trans. (without foreign text) is available from SLA $1.10 as 63-16860 [1963] 4p.

DESCRIPTORS: *Iron compounds, *Oxides, *Decomposition, Stability, *Solids, *Phase transitions.

Chaudron, Georges and Forestier, Hubert.
STUDY OF THE DECOMPOSITION OF FERROUS OXIDE: DEVIATIONS OF EXPANSION CORRELATIVE TO ITS INSTABILITY [Étude de la Decomposition du Protoxyde de Fer: Anomalies de Dilatation Correlatives de Son Instabilite]. [1963] 4p. 1 ref.
Order from SLA $1.10 63-16860

Trans. of Academie des Sciences [Paris]. Comptes Rendus (France) 1924, v. 178, no. 26, p. 2173-2176 (pub. by Gathier-Villars et Cie., Paris).

DESCRIPTORS: *Iron compounds, *Oxides, *Decomposition, Stability.

(See also 63-16736)

Davydov, B. I. and Shmushkevich, I. M.
THEORY OF ELECTRON SEMICONDUCTORS, I, tr. by A. de Merindol. June 60 [88]p. 26 refs. NP-tr-630.
Order from OTS or SLA $8.10 63-23308

Trans. of Uspekhi Fizicheskikh Nauk (USSR) 1940, v. 24, no. 1, p. 21-67.
Another trans. is available from OTS or SLA $5.60 as 62-19858, MDF D-148 [1961] 53p.

DESCRIPTORS: *Electrons, *Semiconductors, Energy, Crystal structure, Solids, Wave characteristics, Lattices.

Gubkin, A. N. and Matsonashvili, B. N.
PHYSICAL NATURE OF THE ELECTRET EFFECT IN CARNAUBA WAX. [1962] 22p. 21 refs.
Order from OTS or SLA $2.60 63-10157

Trans. of #Fizika Tverdogo Tela (USSR) 1962, v. 4, no. 5, p. 1196-1205.

DESCRIPTORS: *Dielectrics, *Electrets, Polarization, Relaxation time, Electric insulation, *Waxes.

The electret properties of Carnauba wax are investigated. Residual polarization and problems of relaxation are given special attention. The physical nature of the electret effect in Carnauba wax is discussed. Conclusions are drawn of the unique nature of the electret state in different dielectrics. (Author)

Heiland, Gerhard.
FIELD EFFECT AND PHOTOCONDUCTIVITY OF ZnO SINGLE CRYSTALS (Feldeffekt und Photoleitung an ZnO-Einkristallen). [1961] [44]p. (foreign text included) 15 refs.
Order from SLA $4.60 63-16973

Trans. of Physics and Chemistry of Solids (U. S.) 1958, v. 6, p. 155-168.
Another trans. is available from SLA $2.60 as 62-10417 [1961] 24p.

DESCRIPTORS: *Zinc compounds, Oxides, Crystals, *Single crystals, Photoconductivity, Measurement, Hall effect, Surface properties, Electrons, Density, Motion, Impurities, Hydrogen, Atoms, Oxygen, Light, Optics.

It was shown that atomic hydrogen produces an n-type accumulation layer on the surface of ZnO crystals. Three different methods are used to change carrier density at the surface without changing the gas coverage: field-effect, photoexcitation with chopped light and photoexcitation with steady illumination. From field-effect (change of carrier density due to transverse electric fields) and from surface photoconduction, using chopped light in the intrinsic absorption region, a drift mobility is derived. The drift mobility increases with increasing surface conductivity for several orders of magnitude and reaches 30 $cm^2/Vsec$. Measurements of surface photoconduction, using continuous irradiation in the intrinsic absorption region, combined with the drift mobility, yield information on the density and lifetime of excited electrons at the surface. As the irradiation intensity is increased through four orders of magnitude, the lifetime decreases from 0.5 sec to $7x10^{-4}$sec. If the surface conductivity is changed by four orders of magnitude by adsorption or desorption, the lifetime remains constant and is independent of adsorbed gases.

Hüttig, Gustav F.
CONTRIBUTION TO THE PROBLEM CONCERNING THE COURSE OF REACTIONS IN THE SOLID STATE (Aktive Oxyde. 72. Beitrag zur Frage nach dem Verlauf von Reaktionen im festen Zustande). Communication 72 on Active Oxydes. [1963] [11]p. (foreign text included) 12 refs.
Order from SLA $1.60 63-16749

Trans. of Z[eitschrift] f[ür] Anorg[anische] u[nd] Allg[emeine] Chem[ie] (Germany) 1934, v. 217 [no. 1] p. 22-26.

DESCRIPTORS: *Solid state physics, *Oxides, Chemical reactions.

See also 62-10550

Hüttig, Gustav F., Tschakert, Hans E., and Kittel, Herbert.
STUDIES CONCERNING THE COURSE OF THE ZINC FERRITE FORMATION FROM ZINC OXIDE AND IRON OXIDE (Untersuchchungen über den Verlauf der Zinkferritbildung aus Zinkoxyd und Eisenoxyd (Aktive Oxyde. 89. Mitteilung)). Communication 89 on Active Oxides. [1963] 22p. (foreign text included) 25 refs.
Order from SLA $2.60 63-16752

Trans. of Z[eitschrift] für Anorg[anische] u[nd] Allg[emeine] Chemie (Germany) 1935, v. 223, p. 241-250.

DESCRIPTORS: *Zinc compounds, *Iron compounds, *Oxides, *Ferrites, Chemical reactions.

See also 63-16749

Hüttig, Gustav F. and Kosterhon, Kurt.
THE TRANSITION OF ANATASE INTO RUTILE AND THE INFLUENCE OF THE PRESENCE OF HYDROGEN CHLORIDE GAS (Der Übergang von Anatas in Rutil and seine Beeinflussung durch die Anwesenheit von Chlorwasserstoffgas. (Aktive Oxyde und Reaktionen fester Stoffe. 117. Mitteilung)). Communication 117 on Active Oxides and the Reactions of solid substances [1963] 16p. (foreign text included) 6 refs.
Order from SLA $1.60 63-16753

Trans. of Kolloid-Z[eitschrift] (Germany) 1939, v. 89, no. 2, p. 202-208.

DESCRIPTORS: Solids, Chemical reactions, *Oxides, Phase transitions, *Gases, *Chlorides, *Hydrogen compounds, *Titanium compounds, Dioxides.

See also 63-16752

Leksina, I. E. and Penkina, N. V.
THE OPTICAL PROPERTIES OF DILUTE RHODIUM-PLATINUM SOLID SOLUTIONS (Opticheskie Svoistva Razbavlennykh Tverdykh Rastvorov Rodii-Platina). Aug 62 [5]p. (foreign text included) 5 refs. [DSIR] NLL M. 3958.
Order from OTS or SLA $1.10 63-19871

Trans. of #Fiz[ika] Met[allov i] Metalloved[enie] (USSR) 1962, v. 13, no. 5, p. 799-800.

DESCRIPTORS: Optical properties, Solids, Solutions, *Rhodium alloys, *Platinum alloys.

Shveikin, V. I.
EXPERIMENTAL DETERMINATION OF BASIC TRANSISTOR PROPERTIES BY MEASUREMENT OF MINORITY CARRIER CHARGE IN THE BASE. [1963] 12p. 5 refs.
Order from OTS or SLA $1.60 63-16645

Trans. of #Radiotekhnika i Elektronika (USSR) 1960, v. 5, no. 7, p. 1158-1164.

DESCRIPTORS: *Transistors, Alloys, Solid state physics.

A method for measuring the minority carrier charge injected into the base is proposed. The base charge measurements permits determining the basic parameters of the transistor-the α-cutoff frequency and the effective life-time of minority carriers in the base. The experiment was carried out for alloy transistors where the proposed method of measuring the charge has well justified itself. The magnitude of base charge Q_{act} for alloy transistors is of the order of 10^{-9} - 10^{-3} C at emitter currents of 10 mA. In measuring the base charge Q_{act} in drift transistors, difficulties arise relative to both the smallness of the measured charge which, apparently, is approximately two orders of magnitude smaller than in alloy transistors and to the very small duration of the switching transient in the common-base circuit, during which the accumulated charge flows from the base. This fact places rigid requirements both on the switching times of diodes D_1, D_2 and the risetime of the emitter current input pulse. The sensitivity of the circuit for small values of injected charge Q_{act} may be increased by increasing the repetition frequency of emitter current input pulses F. The method of measuring the minority carrier charge opens up a number of other possibilities for the experimental study of transistor properties. In particular, measurement of the dependence of Q_{act} on collector voltage permits the experimental study of base-width modulation phenomena. (Author)

Vodop'yanov, K. A.
PROTRIÉTÉS DIÉLECTRIQUES DES MICAS (Dielectric Properties of Mica). 6p. 6 refs.
Order from OTS, ETC or CNRS $0.80 62-26495

Trans. in French of Elektrichestvo (USSR) 1950, no. 11 [p. 78-81].

DESCRIPTORS: *Mica, *Dielectric properties, Experimental data.

Zernov, D. V.
MÉCANISME DE LA PERFORATION ÉLECTRIQUE DES DIÉLECTRIQUES SOLIDES (Mechanism of the Electric Breakdown of Solid Dielectrics). 12p. 14 refs.
Order from OTS, ETC or CNRS $0.80 62-28091

Trans. in French of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1950, no. 6, p. 866-872.

DESCRIPTORS: *Dielectric films, *Transients, Solids, Gases, Theory, Ionization, Shock, Electrical corona.

SOCIAL SCIENCES

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 57. 29 July 63, 23p. JPRS: 20359.
Order from OTS $0.75 63-31384

Trans. of Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 4, p. 3-11, 70-72, 74.

DESCRIPTORS: *Industrial production, *Economics, Industries, Labor unions, Construction, Commerce, Conferences, Metals.

Contents:
Socialist obligations of industrial collectives and organizations of the Armenian SSR sovnarkhoz for 1963
Armenian industry promises progress in the fifth year of the Seven-Year Plan
Greater attention to industrial construction, by L. Erzinkyan
External economic ties of the Armenian SSR sovnarkhoz, by A. Tonyan
In the Armenian SSR sovnarkhoz
Seminar on use of nonferrous metals.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 60. 2 Aug 63, 9p.
JPRS: 20467.
Order from OTS $0.50 63-31438

Trans. from Ekonomicheskaya Gazeta (USSR) 1963, no. 24[97] p. 47-48; Pravda, Moscow (USSR) 1963, 11 June, p. 4; Sovetskaya Moldaviya (USSR) 1963, 3 May, p. 3; Zarya Vostoka (USSR) 1963, 14 June, p. 1.

DESCRIPTORS: *Industrial production, *Economics, Industrial plants, Machines, Education, Construction, Engineering personnel, Commerce, Industrial equipment.

Contents:
Efficiency of machine buildings plants
Research institute announces course enrollment and positions available
New construction in Azerbaidzhan
Specialists needed in Mordovian ASSR
Machine and equipment sales.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 61. 2 Aug 63, 25p.
JPRS: 20473.
Order from OTS $0.75 63-31441

Trans. of 20 selected articles from 1963 issues of 14 Russian newspapers.

DESCRIPTORS: *Industrial production, *Economics, Scheduling, Cast iron, Instrumentation, Industrial plants, Construction, Reliability, Management engineering, Effectiveness, Personnel, Commerce.

Contents:
Ahead of schedule plan fulfillment in Moscow economic region
New cast iron for compressors, by V. Avakyan
Instrument building failures in the Lithuanian sovnarkhoz, by B. Meriin
Vil'nyus plant development, by S. Kuz'menko
Construction in Gomel', by A. I. Kosyakov
Development of Mogilev, by P. Lugovtsov
Reliability as the key to automation, by B. Gnedenko
Planning and technical progress, by B. Azimov
Improving equipment use, by I. Lebedinskii
News briefs
Personnel wanted and equipment for sale.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 62. 5 Aug 63, 27p.
JPRS: 20491.
Order from OTS $0.75 63-31448

Trans. of Kommunist Moldavii (USSR) 1963 [v. 8] no. 5, p. 56-58; Planovoe Khozyaistvo (USSR) 1963 [v. 40] no. 6, p. 75-81; and from Pravda, Moscow (USSR) 1963, 30 May, p. 1; Vechernaya Moskva (USSR) 1963, no. 136, 11 June, p. 2; Ekonomicheskaya Gazeta (USSR) 1963, no. 25[98] p. 32 and 46; Sovetskaya Kirgiziya (USSR) 1963, 21 June, p. 3.

DESCRIPTORS: *Industrial production, *Economics, Management engineering, Quality control, Iron industry, Machines, Electrical equipment, Commerce, Foundries, Cast iron.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 63. 9 Aug 63, 19p.
JPRS: 20582.
Order from OTS $0.75 63-31494

Trans. of 8 selected articles from 1963 issues of 7 Russian newspapers.

DESCRIPTORS: *Industrial production, *Economics, Polymers, Machines, Welding rods, Tools, Commerce, Management engineering, Education.

Contents:
Polymers in machine building
Welding electrodes for alloy plating (patent no. 148 169)
People's University Electronics-Automation Department graduates first class
First tool plant in Central Asian economic region
Contents:
The general direction of industry, by A. F. Dubrovin
Items produced by Moscow enterprises, by V. Doenin
Better Belorussian products demanded, by A. Zolov
The reorganization of cast iron production is necessary by S. Kirka
Central Asia machine building the electro-engineering industry production
Equipment sales (2 short news items)
How to specialize foundries, by M. Litochevskii.
Products shipped to Hungarian People's Republic
Problems of surplus uninstalled equipment, by A. Sayadyan
Plan fulfillment at important Moldavian projects
Advertisements.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 64. 12 Aug 63, 12p.
JPRS: 20595.
Order from OTS $0.50 63-31504

Trans. of Poligraficheskoe Proizvodstvo (USSR) 1963, no. 6, p. 3; and from Ekonomicheskaya Gazeta (USSR) 1963, no. 25[98] p. 37; Kommunist, Tadzhikistana (USSR) 1963, 29 June, p. 1, 4; Pravda, Leningrad (USSR) 1963, 13 June, p. 1; 20 June, p. 4; Pravda, Moscow (USSR) 1963, 13 June, p. 2.

DESCRIPTORS: *Industrial production, *Economics, Management engineering, Automation, Printing, Personnel.

Contents:
Behind the screen of overstated prices, by V. Spirkin
Consolidation, specialization, technical progress, by Yu. Zaytsev
All-Russian Conference on Automation of Administration in Manufacturing
Improving the polygraphical industry, by K. M. Bogolubov
Dushanbe central region meets quota
Classified advertisment
Leningrad Vulkan plant.

Huang, T ui.
GRAPHS ANL TRANSPORTATION PROBLEMS.
22 July 63, 39p. 13 refs. JPRS: 20296.
Order from OTS $1.00 63-31354

Trans. Sibirskii Matematicheskii Zhurnal (USSR) 1963, v. 4, no. 2, p. 426-445.

DESCRIPTORS: *Transportation, Graphic analysis, *Distribution (Economics), *Linear programming.

Set forth are facts from the theory of graphs and the concept of flow in a somewhat more general form than ordinarily. Two criteria of optimization are proved for the transportation problem with nonlinear cost of hauling and methods of solution are set forth based on these criteria. The results obtained are applied to certain problems of the theory of graphs; in particular, a problem of K. Berzh on the pair combination for an arbitrary graph is solved and a graphical method is given for finding the hamiltonian cycles of the graphs. (Author)

Theoretical Physics

DETECTION AND GENERATION OF GRAVITATIONAL WAVES (COMPREHENSIVE REPORT).
Rept. 1 on AID Work Assignment 43 summarizing Soviet open literature Dec 59-Mar 63. 24 May 63 [44]p. 21 refs. AID Rept. P-63-77.
Order from OTS or SLA $4.60 63-23098

DESCRIPTORS: *Gravity, Propagation, Detection, Test methods, Tests.

Contents:
Foreward
Introduction
Experimental detection and measurement of weak signals
Experimental methods and techniques proposed for the detection and generation of gravitational waves in the laboratory
Gravitation experiments
Analysis and criticism by Soviet scientists of experimental methods and techniques proposed for the detection and generation of gravitational waves
Experimental methods and techniques proposed for the investigation of antigravity.

Shirokov, M. F.
ON THE CORRECT UNDERSTANDING OF THE THEORY OF RELATIVITY (O Pravil'nom Ponimanii Teorii Otnositel'nosti) tr. by Zanis Stuberovskis.
[1962] [14]p. E-T-R-R-62-24; AD-284 836.
Order from OTS or SLA $1.60 63-15784

Trans. of Voprosy Filosofii (USSR) 1961 [v. 15] no. 5, p. 133-137.

DESCRIPTORS: *Relativity theory, Analysis.

Thermodynamics

Alyamovskii, I. G.
TEMPERATURE FIELD OF A LIMITED BODY, HAVING THE SAME FORM OF A PARALLELEPIPED WITH CONTINUOUSLY ACTIVE SOURCE OF HEAT.
8 Oct 62 [6]p. 1 ref. FTD-TT-62-1391; AD-287 675.
Order from OTS or SLA $1.10 63-13227

Unedited rough draft trans. of paper presented at the Conference on Heat and Mass [Transfer] Minsk, 23-27 Jan 61 (Tezisy Dokladov i Soobshchenii na Soveshchanii po Teplo i Massoobmenu, 5-9 June 61 [Moscow] p. 1-7).

DESCRIPTORS: *Heat exchangers, *Conductivity, Temperature, Boundary layer, Convection, Equations.

Borisevich, V. A.
INVESTIGATION OF HEAT EXCHANGE IN THE MOVEMENT OF A DISPERSE MEDIUM IN PIPES.
16 May 63 [16]p. 9 refs. AID rept. T-63-63.
Order from OTS or SLA $1.60 63-19583

Trans. of paper presented at the Conference on Heat and mass [transfer] Minsk [5-10] June 61.

DESCRIPTORS: *Heat transfer, Sand, *Pipes, Test equipment, Tests, *Mass transfer.

The experiments cited in this paper made it possible to derive a generalized relation which describes the heat exchange process in the flow of a loose medium (sand) in vertical pipes in the 150 to 400°C temperature range with respect to pipe length and diameter. The decisive influence of the boundary layer, being a thermal resistance, was established. Investigation of the character of a flow of sand in pipes made it possible to explain the characteristics of the heat exchange process between the dense moving layer of a loose medium and the pipe wall. (Author)

Gadzhiev, S. N., Agarunov, M. Ya., and Sharifov, K. A.
MEASUREMENT OF SMALL TEMPERATURE DIFFERENCES WITH THE AID OF THERMISTORS.
[1963] [9]p. 15 refs.
Order from OTS or SLA $1.10 63-16560

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1962 [v. 36] no. 4, p. 897-899.

DESCRIPTORS: *Thermistors, *Temperature sensitive elements, Effectiveness.

Kharlamov, A. G.
THE DETERMINATION OF THE THERMAL CONDUCTIVITY OF HEAT INSULATING MATERIALS AT TEMPERATURES UP TO 2,000°C [Opredelenie Teploprovodnosti Teploizolyatsionnykh Materialov do Temperatury 2000°).
[1962] [6]p. 6 refs. C. E. Trans. 2545; [DSIR] NLL M.6376.
Order from OTS or SLA $1.10 62-32805

Trans. of Teploenergetika (USSR) 1961, v. 8, no. 3, p. 64-66.

DESCRIPTORS: *Thermal insulation, *Thermal conductivity, Heat resistant materials, Porous materials, High temperature research, Controlled atmospheres, *Aluminum compounds, *Oxides, Titanium compounds, Calcium compounds, Magnesium compounds, Silicon compounds, Heat transfer.

Kogan, B. I. and Khrustalev, A. F.
DISTRIBUTION OF TEMPERATURE IN A HOLLOW INFINITE CYLINDER. 8 Oct 62 [7]p. 2 refs. FTD-TT-62-1392; AD-287 679.
Order from OTS or SLA $1.10 63-13224

Unedited rough draft trans. of a paper at the Conference on Heat and Mass [Transfer] Minsk, 23-27 Jan 61 (Tezisy Dokladov i Soobshchenii na Soveshchanii po Teplo i Massoobmenu, 5-9 June 61 [Moscow] p. 1-8).

DESCRIPTORS: *Heat transfer, *Boundary layer, Temperature, Functional analysis, Cylindrical bodies.

Kremenchugs'kii, L. S. and Mal'nev, A. F.
CONTACTLESS DETERMINATION OF TEMPERATURES OF BODIES BELOW RED HEAT. [1963] 3p.
Order from ATS $5.00 ATS-04Q70U

Trans. of Ukr[ayins'kyi] Fiz[ychnyi] Zh[urnal] (USSR) 1961, v. 6, no. 6, p. 876-878.

DESCRIPTORS: *Geometric forms, *Heat transfer, Thermal radiation, *Temperature.

Lichtenberger, F.
TEMPERATURE INDICATOR. 29 Dec 47 [2]p.
Order from OTS or SLA $1.10 63-14802

Partial trans. from mono. [Temperatur-Indikator, n. p., Sep 35, 15p.] (PB-38466).

DESCRIPTORS: Temperature, *Pyrometers, Infrared photoelectric cells, Sodium compounds, Combustion chambers, *Photoelectric pyrometers.

Novikov, I. I. and Trelin, Yu. S.
NEW METHOD OF CONSTRUCTING THERMODYNAMIC DIAGRAMS FOR WORKING SUBSTANCES [AND COMMENT ON ARTICLE BY E. E. SHPIL'RAIN] (Novyi Metod Postroeniye Termodinamicheskikh Diagramm Rabochikh Veshchestv). Mar 63, 14p. 9 refs. RTS 2206.
Available on loan from OTS or SLA 63-23002

Trans. of Teploenergetika (USSR) 1962, v. 9, no. 2, p. 79-85.

DESCRIPTORS: *Thermodynamics, Sound, Velocity, *Carbon dioxide, Tables.

A new method of construction of thermodynamic diagrams, based on measurements of the velocity of sound, is proposed. Tables and diagrams are presented for the case of carbon dioxide. (Author)

Potapenko, A. E. and Kostenko, P. P.
INFLUENCE OF AN ELECTRICAL FIELD ON FLAMES. 12 June 63 [9]p. 2 refs. FTD-TT-63-408.
Order from OTS or SLA $1.10 63-23198

Unedited rough draft trans. of #Inzhenerno-Fizicheskii Zhurnal (USSR) 1962, v. 5, no. 10, p. 73-76.

DESCRIPTORS: *Jet flames, *Flames, *Electric fields, Jet mixing flow, Ethanol, Electrodes, Tests, Fuels, Combustion.

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

ACTIVITIES OF THE ACADEMY OF SCIENCES KAZAKH SSR IN 1962. 30 July 63, 68p. JPRS: 20400.
Order from OTS $1.75 63-31409

Trans. of Akademiya Nauk Kazakhskoi SSR, Alma-Ata. Vestnik, 1963 [v. 19] no. 4[217] p. 8-45, 51-57, 65-73.

DESCRIPTORS: *Scientific organizations, *Scientific research, *Scientific personnel, Natural resources, Minerals, Physics, Mathematics, Biology, Research program administration.

Contents:
Results of scientific activity of the Academy of Sciences Kazakh SSR in 1962 and the next tasks, by O. A. Baikonurov
Speeches of scientists and decisions on organizational problems
Resolution of the general meeting of the Academy of Sciences Kazakh SSR
In the Department of Mineral Resources
Results of scientific activity of institutions of the Department of Mineral Resources for 1962 and next tasks, by R. A. Borukaev
In the Department of Physico-Mathematical Sciences
Results of scientific activity of the institutes of the Department of Physico-Mathematical Sciences for 1962 and the next tasks, by Zh. S. Takibaev
In the Department of Biological Sciences
Results of scientific activity of the institutes of the Department of Biological Sciences for 1962 and the next tasks, by A. D. Dzhangaliev.

REGULATION ON THE STATE COMMITTEE FOR SCIENCE AND TECHNICAL PROGRESS. 30 July 63, 7p. JPRS: 20424.
Order from OTS $0.50 63-31421

Trans. from Durzhaven Vestnik (Bulgaria) 1963, no. 48, 21 June, p. 1-3.

DESCRIPTORS: *Scientific organizations, *Research program administration.

TRANSLATED SWISS PATENTS [NO. 7]. July 63 [133]p.
Order from OTS $2.75 63-11187

Trans. of Swiss patents including patent number, class number, name and residence of patentee and patent owner, title, filing and priority date, and first claim. Excluded are those patents bearing priority dates from Australia, Austria, Canada, Great Britain, United States, and West Germany.

DESCRIPTORS: *Patents, Inventions, Switzerland

Patents in this publication are arranged according to the German Patent Classification System. A Classification Table, which also serves as a Table of Contents, and an Alphabetical Key to Patent Classes precede the patent abstracts. A Name Index and a Patent Number Index are included at the end of the publication. (See also 62-11028)

TRANSLATIONS ON COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY NO. 43. 25 July 63, 43p. JPRS: 20339.
Order from OTS $1.25 63-31376

Trans. of 15 selected articles from 25 May-9 June 63 issues of Chung Kuo Hsin Wen (Chinese People's Republic) and Kuang Ming Jih Pao (Chinese People's Republic).

DESCRIPTORS: *Scientific research, *China, Ophthalmology, Paints, Surgery, Hospitals, Education, Scientific personnel, Universities, Instructors, Medical personnel, Plants (Botany), Translations, Marine biology, Oceanology.

Contents:
Preliminary success in treating ocular paralysis
Rosy prospects for marine exploration in the South Sea, by Su Ch'en
Introduction of new, rust-proof paint for agricultural ships
Convention on surgery held at Tientsin
The children's hospital of Nanking today, by Li T'ien
A new method of teaching laboratory courses, by Huang Ying-hua
Lady scientist Hou Yu-t'ang China's first crustacea fossil specialist
The new appearance of Yunnan University, by Tung Tse
A good teaching assistant in our department, by Tu Ho-kuei
Knights who guard public health, by Tai Yueh
Prof. Hou celebrated 70th birthday
Specialists working for prduction
Higher education institutes of Kwangtung province begin accepting applications
Catalogue of Szechwan's wild-grown economic plants published
Translation of foreign scientific and technical publications.

Didyk, B. S. and Katkov, F. A.
A CODE FREQUENCY COMBINATION SYSTEM OF TELEMETRY. [1962] [4]p. 2 refs. [DSIR] NLL M. 8983.
Order from OTS or SLA $1.10 63-15235

Trans. of Avtomatyka (USSR) 1962 [v. 7] no. 2, p. 69-72.

DESCRIPTORS: *Telemeter systems, *Coding, Data transmission systems.

BOOK REVIEWS

The following book reviews can be ordered by number from OTS or SLA for $1.10. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and detailed table of contents.

BR-SOV/6268
Zak, Aron Faybyshevich
PHYSICOCHEMICAL PROPERTIES OF GLASS FIBERS (Fiziko-khimicheskiye svoystva steklyannogo volokna) Moscow, Rostekhizdat, 1962. 224p. Errata slip inserted. 2500 copies printed.

BR-SOV/6272
Ginberg, Aleksandr Mironovich
TECHNOLOGY OF ELECTROPLATING (Tekhnologiya gal'vanotekhnika) Leningrad, Sudpromgiz, 1962, 279p. 13,300 copies printed.

BR-SOV/6273
Reybman, A. I.
NEW VARNISH AND PAINT MATERIALS AND MODERN METHODS OF THEIR APPLICATION; OUTLINE (Novyye lakokrasochnyye materialy i progressivnyye metody ikh primeneniya; obzor). Leningrad, 1962. 99p. (Series: Leningradskoye otdeleniye Obshchestva po rasprostraneniyu politicheskikh i nauchnikh znaniy RSFSR. Seriya Zashchitnyye pokrytiya) 5000 copies printed.

BR-SOV/6275
Yemel'yanov, Leonid Aleksandrovich
DIESEL-FUEL FILTRATION (Fil'tratsiya dizel'nogo topliva) Moscow, Mashgiz, 1962. 105p. 5000 copies printed.

BR-SOV/6276
Bulgakov, Nikolay Vasil'yevich, and Georgiya Isaakovich Kutyanin
COMMERCIAL PRODUCTS. INTRODUCTION, PLASTICS, COMMERCIAL CHEMICALS (Tovarovedeniya promyshlennykh tovarov. Vvedeniye, plasticheskiye massy, khimiko-moskatel'nyye tovary) Moscow, Gostorgizdat, 1962. 368p. 18,000 copies printed.

BR-SOV/6278
Ryabinkin, Lev Aleksandrovich, Yuriy Viktorovich Napalkov, Vladimir Vyacheslavovich Znamenskiy, Yuriy Nikolayevich Voskresenskiy, and Miron Borisovich Rapoport.
THEORY AND PRACTICE OF THE SEISMIC METHOD OF CONTROLLED DIRECTIONAL RECEPTION (Teoriya i praktika seysmicheskogo metoda RNP) Moscow, Gostoptekhizdat, 1962. 293p. (Series: Moscow, Institut neftekhimicheskoy i gazovoy promyshlennosti. Trudy, vyp. 39). 3000 copies printed.

BR-SOV/6279
Narovlyanskiy, Grigoriy Yakovlevich, and Sergey Vasil'yevich Solonin
EQUIVALENT WIND AND METHODS OF ITS CALCULATION (Ekvivalentnyy veter i metody yego rascheta) Leningrad, Gidrometeoizdat, 1962. 98p. Errata slip inserted. 1250 copies printed.

BR-SOV/6286
INSTRUCTIONS FOR SEISMOGRAPHIC GEOPHYSICAL PROSPECTING (Instruktsiya po seysmorazvedke). Moscow, Gosgeoltekhizdat, 1962. 95p. Errata slip inserted. 15,000 copies printed.

BR-SOV/6289
Sushkov, Yuriy Nikolayevich
SPACESHIP ENGINES (Dvigateli kosmicheskikh korabley) Moskva, Voyenizdat, 1962. 171p. (Series: Nauchno-populyarnaya biblioteka Voyennogo izdatel'stva) 27,000 copies printed.

BR-SOV/6290
Serensen, Sergey Vladimirovich, Yevgeniy Valentinovich Giatsintov, Vladimir Petrovich Kogayev, and Mikhail Nikitovich Stepnov
STRUCTURAL STRENGTH OF AIRCRAFT ALLOYS USED IN AVIATION ENGINEERING (Konstruktsionnaya prochnost' aviatsionnykh splavov) Moscow, Oborongiz, 1962. 100p. (Series: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, vyp. 54). 2100 copies printed.

BR-SOV/6291
Popov, Aleksandr Artem'yevich
THEORETICAL PRINCIPLES OF THERMOCHEMICAL TREATMENT OF STEEL (Teoreticheskiye osnovy khimiko-termicheskoy obrabotki stali) Sverdlovsk, Metallurgizdat, 1962. 118p. 5200 copies printed.

BR-SOV/6292
Reznikov, G. B.
AIRBORNE ANTENNAS (Samoletnyye antenny) Moscow, "Sovetskoye radio," 1962. 455p. 7500 copies printed.

BR-SOV/6293
Chugayev, Yuriy Gennadiyevich and Valeriy Antonovich Plisko
ELECTRONIC COMPUTERS (Elektronnyye tsifrovyye vychislitel'nyye mashiny) Moscow, Voyenizdat M-va obor. SSSR. 1962. 405p. 17,500 copies printed.

BR-SOV/6294
Levichev, Vladimir Grigor'yevich, Yakov Vasil'yevich Stepuk and Boris Il'ich Fogel'son
FUNDAMENTALS OF RADIO ENGINEERING AND RADAR RADIO TRANSMITTING AND RECEIVING DEVICES (Osnovy radiotekhniki i radiolokatsii; radioperedayushchiye i radiopriyemnyye ustroystva). Moscow, Voyenizdat M-va obor. SSSR. 1962. 494p. 60,000 copies printed.

TRANSLATIONS IN PROCESS

COLLECTION OF REPORTS ON SCIENTIFIC RESEARCH WORK IN CIVIL ENGINEERING AND ARCHITECTURE CARRIED OUT IN 1962.
Mono. Sbornik Annotatsii Nauchno-Issledovatel'skik Rabot po Stroctelstvu [sic] i Arkhitekture [Moscow] 1963.
To be published by IPST.

GEOPHYSICS BULLETIN, 1962, NO. 12: SELECTED ARTICLES.
Geofizicheskii Byulleten (USSR) 1962, no. 12, p. 14-68, 109-114.

HERALD OF COMMUNICATIONS, 1963, NO. 8: SELECTED ARTICLES.
Vestnik Svyazi (USSR) 1963 [v. 23] no. 8.

[OCEANOGRAPHY: SELECTED ARTICLES].
Methody i Resul'taty Podvodnykh Issledovanii [sic] 1962, v. 14, p. 7-23, 45-68, 109-115.

OPTICAL TRANSITION PROBABILITIES.
PL-480 Leningrad U. Vestnik (USSR) 1962, no. 4, p. 73-74; no. 13, p. 113-137; Akademiya Nauk Litovskoi SSR, Vilna. Trudy. Seriya B, 1961, no. 2(25) p. 23-28, 31-38, 93-97, 99-104; Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya, 1950, v. 14, no. 6, p. 711-715.

SCIENTIFIC ACTIVITIES IN GEOMAGNETISM AND AERONOMY IN 1960-1962 PRESENTED TO THE INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS: REPORT: SELECTED PARTS.
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